



PRESIDENCY UNIVERSITY

(Established under the Presidency University Act, 2013 of the Karnataka Act 41 of 2013)

COURSE OUTCOMES - AY 2022-23

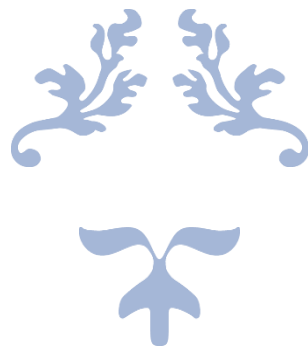
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 REGISTRAR


PRESIDENCY UNIVERSITY



COURSES OFFERED IN ODD/ FALL SEMESTER-AY 2022-2023



**School Of Engineering
Department of Chemistry**

1. Course Name: Environmental Science

Course Code: CHE1018

CHE1018-CO1: Outline the need for eco-balance *Knowledge*

CHE1018-CO2: Memorize basic knowledge about global climate change with particular reference

to the Indian context *Knowledge*

CHE1018-CO3: Identify ways to protect the environment *Comprehension*

2. Course Name: Fundamentals of Environmental studies

Course Code: CHE1019

CHE1019-CO1: Outline the need for eco-balance *Knowledge*

CHE1019-CO2: Memorize basic knowledge about global climate change with particular reference

to the Indian context *Comprehension*

CHE1019-CO3: Identify ways to protect the environment *Knowledge*

3. Course Name: Applied Chemistry

Course Code: CHE1017

CHE1017-CO1: Identify the suitable polymers to replace the conventional materials *Knowledge*

CHE1017-CO2: Summarize the importance of various electrochemical sources in energy systems *Comprehension*

CHE1017-CO3: Describe the knowledge of electrochemistry principles for protection of different metals from corrosion *Knowledge*

CHE1017-CO4: Explain the fundamental principles in water treatment *Application*



School Of Engineering
Department of Civil Engineering

1. Course Name: Elements of Engineering Mechanics

Course Code: CIV1003

CIV1003-CO1: Recognize the significance of the principles of mechanics in the engineering context *Knowledge*

CIV1003-CO2: Illustrate the fundamentals of equilibrium of forces acting on a body *Comprehension*

CIV1003-CO3: Explain the effects of friction on a rigid body lying in different planes *Comprehension*

2. Course Name: Basic Engineering Sciences

Course Code: CIV1008

CIV1008-CO1: Recognize the significance of various disciplines in Civil Engineering *Knowledge*

CIV1008-CO2: Discuss the recent evolutions in Civil Engineering *Comprehension*

CIV1008-CO3: Explain various energies, energy generating machineries and energy consumption machineries *Comprehension*

CIV1008-CO4: Distinguish between conventional and modern manufacturing techniques. *Application*

3. Course Name: Building Materials and Concrete Technology

Course Code: CIV1006

CIV1006-CO1: Understand the basic requirements and the properties of various building construction materials *Knowledge*

CIV1006-CO2: Identify the characteristics of basic ingredients and properties of concrete *Knowledge*

CIV1006-CO3: Design economic mix proportions for concrete mixes *Application*

4. Course Name: Strength of Materials

Course Code: CIV2007

CIV2007-CO1: Predict the stress-strain behavior of various materials subjected to different loading conditions *Application*

CIV2007-CO2: Sketch the Shear Force Diagram, Bending Moment Diagram and stress distribution along a c/s for statically determinate beams *Comprehension*

CIV2007-CO3: Compute the torsional strength of the shaft. *Application*



CIV2007-CO4: Compute the load carrying capacity of axially loaded columns *Application*

5. Course Name: Surveying

Course Code: CIV1005

CIV1005-CO1: Apply the knowledge of fundamental principles of surveying to establish points by predetermined linear and angular measurements. *Knowledge*

CIV1005-CO2: Compute the distance and elevation using the concepts of levelling by direct or indirect method. *Comprehension*

CIV1005-CO3: Interpreting the details of field and contours on sheet by site mapping using the concepts of plane table survey and contouring *Application*

6. Course Name: Fluid Mechanics

Course Code: CIV2009

CIV2009-CO1: Explain the properties of fluid behavior under static conditions. *Comprehension*

CIV2009-CO2: Apply Bernoulli's theorem for discharge measurement through pipes *Application*

CIV2009-CO3: Compute the Major and Minor losses in pipe systems *Application*

7. Course Name: Engineering Geology

Course Code: CIV2008

CIV2008-CO1: Define various geological activities of the earth. *Knowledge*

CIV2008-CO2: Identify the common minerals, rocks and their applications in civil engineering projects *Comprehension*

CIV2008-CO3: Apply the engineering construction techniques including the use of recent technologies associated with Earth processes *Application*

CIV2008-CO4: Recognize the hydrogeological components to solve the difficulties in the field. *Comprehension*

CIV2008-CO5: Solve field problems using contour maps and geological maps *Application*

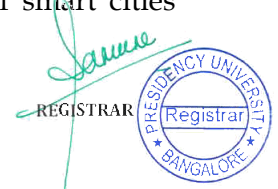
8. Course Name: Fundamentals of Smart City (DE-I)

Course Code: CIV2041

CIV2041-CO1: Describe the technologies and the smart solutions for the development of smart cities *Comprehension*

CIV2041-CO2: Discuss a sustainable urban system plan to build smart, inclusive, sustainable cities *Comprehension*

CIV2041-CO3: Identify the technical gaps in implementing and operation of smart cities *Comprehension*



9. Course Name: Construction Equipment and Machinery (DE-I)

Course Code: CIV2038

CIV2038-CO1: Identify different Construction equipments. *Knowledge*

CIV2038-CO2: Recognize the modern techniques used in construction *Comprehension*

CIV2038-CO3: Identify the suitable formworks that supports the structures during construction. *Comprehension*

CIV2038-CO4: Select a suitable construction equipment for the completion of a construction task *Comprehension*

10. Course Name: Analysis of Indeterminate Structures

Course Code: CIV3002

CIV3002-CO1: Express the compatibility equation by knowing slope and deflection in analyzing the indeterminate structure by using the consistent deformation method *Comprehension*

CIV3002-CO2: Compute the internal forces such as bending moment and shear force by using slope deflection, moment distribution and Kani's method *Application*

CIV3002-CO3: Analyze the beam element by flexibility and stiffness matrix method. *Analysis*

11. Course Name: Design of RCC Structural Elements

Course Code: CIV3003

CIV3003-CO1: Illustrate the principles of the limit state design concepts related to the design of RC structures *Knowledge*

CIV3003-CO2: Design the reinforced concrete elements subjected to flexure and shear *Comprehension*

CIV3003-CO3: Demonstrate the procedural knowledge in designs of RC structural elements such as slabs and columns *Application*

12. Course Name: Foundation Engineering

Course Code: CIV3027

CIV3027-CO1: Compute the factor of safety for slope stability and estimate the stress distribution in soils. *Application*

CIV3027-CO2: Compute the lateral earth pressure and interpret the soil investigation report. *Application*

CIV3027-CO3: Compute the load carrying capacity of shallow foundation and pile foundation. *Application*

13. Course Name: Water Infrastructure Systems

Course Code: CIV2047



CIV2047-CO1: Interpret the relevant treatment units/process for surface and subsurface water *Knowledge*

CIV2047-CO2: Relate the process/principles in sizing and locating the treatment units *Application*

CIV2047-CO3: Analyze the comprehensive water distribution system for a locality *Application*

14. **Course Name:** Building Information Modelling (DE III)

Course Code: CIV2012

CIV2012-CO1: Create projects using Revit Architectural Template and work with Family and massing tools. *Application*

CIV2012-CO2: Demonstrate competency using REVIT to create and document small building projects with custom curtain walls *Application*

15. **Course Name:** Remote Sensing and GIS (DE-I)

Course Code: CIV3024

CIV3024-CO1: Define the importance of remote sensing and spectral signatures of rocks, soils, vegetation, water etc *Knowledge*

CIV3024-CO2: Classify satellite image classifications using earth observation satellites. *Comprehension*

CIV3024-CO3: Discuss Drone / UAV techniques and its application in solving Civil Engineering problems. *Comprehension*

CIV3024-CO4: Discuss geospatial data and integrate it with a GIS to create maps and images, to communicate spatial data and non-spatial information in a meaningful way to others. *Comprehension*

16. **Course Name:** Advanced Surveying (DE-I)

Course Code: CIV3019

CIV3019-CO1: Apply the knowledge of geodetic surveying to accurately determine distances and angles. *Application*

CIV3019-CO2: Illustrate the principle and applications of field astronomy. *Application*

CIV3019-CO3: Demonstrate the use of modern surveying instruments and aerial photogrammetry for capturing the geodetic data accurately. *Application*

17. **Course Name:** Ground Improvement Techniques (DE-II)

Course Code: CIV3029

CIV3029-CO1: Identify the problems associated with the existing ground condition and problematic soils. *Application*



CIV3029-CO2: Demonstrate various techniques of ground modifications. *Application*

CIV3029-CO3: Analyze the history, application potential, basic principles and mechanism of geo-synthetics. *Application*

CIV3029-CO4: Analyze the field problems critically and to suggest the methods of ground improvement techniques. *Application*

18. Course Name: Environmental Pollution and Control (DE-II)

Course Code: CIV2027

CIV2027-CO1: Identify the various sources of water pollution and control methods. *Comprehension*

CIV2027-CO2: Discuss the behavior of air pollutants in atmosphere and its control strategies. *Comprehension*

CIV2027-CO3: Infer the impact and control measures of industrial noise Pollution *Comprehension*

19. Course Name: Project Problem Based Learning (PPBL)-(OE III)

Course Code: CIV3046

CIV3046-CO1: Apply the knowledge of domain learning to enable solutions to identified challenges at the Local, Regional, National and Global. *Comprehension*

CIV3046-CO2: Analyse the dynamic behavior of the natural systems to employ the BMPs in context to societal needs. *Application*

CIV3046-CO3: Develop the methodology/execute to solve the identified problems. *Application*

20. Course Name: Estimating, Costing and Valuation

Course Code: CIV215

CIV 215-CO1: Describe the principles of estimation and units of measurement for various items of works *Knowledge*

CIV 215-CO2: Compute the quantity of materials required for various civil engineering works with specification *Application*

CIV 215-CO3: Prepare rate analysis for various building works *Application*

CIV 215-CO4: Estimate the valuation of various building works *Application*

21. Course Name: Waste Water Treatment and Disposal Systems

Course Code: CIV223

CIV 223-CO1: Discuss the quantitative aspects and characteristics of waste water. *Knowledge*

CIV 223-CO2: Relate the process/principles in sizing and locating the sewage treatment *Comprehension*



CIV 223-CO3: Analyze the appropriate disposal methods for sewage effluent/sludge
Application

22. Course Name: Design of Irrigation Water Resources Systems

Course Code: CIV224

CIV 224-CO1: Estimate crop water requirements and irrigation frequency *Comprehension*

CIV 224-CO2: Design of the various minor irrigation structures. *Application*

CIV 224-CO3: Describe causes of failure, design criteria and stability analysis of different types of dams. *Application*

23. Course Name: Railway, Airport and Harbour Engineering

Course Code: CIV225

CIV 225-CO1: Explain about the railway track and its component functions. *Comprehension*

CIV 225-CO2: Compute the various parameters for geometric design of railway track.
Application

CIV 225-CO3: Explain the various Airport characteristics and components. *Comprehension*

CIV 225-CO4: Discuss the layout and components of Harbours and Ports *Comprehension*

24. Course Name: Environmental Engineering Lab

Course Code: CIV259

CIV 259-CO1: Discuss the concepts of the water quality and Waste water characteristics
Application

CIV 259-CO2: Analyze the various parameters of water quality and Waste water characteristics. *Application*

CIV 259-CO3: Interpret the result in comparison with public health considerations and standards. *Application*

25. Course Name: Environmental Geotechnics and Solid Waste Management (DE-IV)

Course Code: CIV311

CIV 311-CO1: Discuss the types, characteristics and containment of solid wastes.
Comprehension

CIV 311-CO2: Explain the applications of geosynthetics in waste disposal. *Comprehension*

CIV 311-CO3: 3 Infer the various solid waste treatment methods and the potential solid wastes to be reused and recycled. *Comprehension*



26. Course Name: Elements of Prestressed Concrete Structures (DE-IV)

Course Code: CIV307

CIV 307-CO1: Compute the stresses and cracking moments in pre-stressing systems
Application

CIV 307-CO2: Examine losses and deflections in prestressed concrete members *Application*

CIV 307-CO3: Illustrate design principles of prestressed concrete sections under flexure and shear *Application*

CIV 307-CO4: Estimate transmission length, bond stresses, anchorage zone stress and dimensions of prestressed flexural members *Knowledge*

27. Course Name: Repair and Rehabilitation of Structures (DE-IV)

Course Code: CIV318

CIV 318-CO1: Indicate the causes for deterioration of structures. *Comprehension*

CIV 318-CO2: Summarize Non-Destructive Test NDT methods available for conditional field assessment of a structure. *Comprehension*

CIV 318-CO3: Identify repair materials to retrofit a deficient member. *Comprehension*

CIV 318-CO4: Choose appropriate method for strengthening a distressed structure.
Application

28. Course Name: Advanced Construction Materials and Technology

Course Code: CIV6001

CIV6001-CO1: Define the various constituents of concrete *Comprehension*

CIV6001-CO2: Recognize the different types of admixtures for concrete *Comprehension*

CIV6001-CO3: Describe the properties of fresh concrete and hardened concrete *Comprehension*

CIV6001-CO4: Compute mix proportions for concrete mixes *Application*

29. Course Name: Quality, Risk and Safety in Construction

Course Code: CIV5005

CIV5005-CO1: Describe construction project management process and various engineering roles involved in project organization *Knowledge*

CIV5005-CO2: Discuss total quality management and safety for construction projects.
Comprehension

CIV5005-CO3: State aspects of Safety. *Knowledge*

CIV5005-CO4: Apply construction safety rules, solutions for safety related issues in construction site. *Application*

CIV5005-CO5: Compute risks involved in construction projects *Application*



30. Course Name: Construction Planning, Schedule and Control

Course Code: CIV5006

CIV5006-CO1: Describe the basic concepts of construction project management and Project organization. *Comprehension*

CIV5006-CO2: Prepare project Time plan and network diagram for various construction projects. *Application*

CIV5006-CO3: Prepare project Resource schedule by allocating resources and optimizing resource allocation. *Application*

CIV5006-CO4: Apply different monitoring and control techniques to monitor progress of construction projects. *Application*

CIV5006-CO5: Prepare schedule of projects in MS Project/ Primavera software and perform various operations to optimize the schedule. *Application*

31. Course Name: Advanced Design of RC Structures (DE - II)

Course Code: CIV6006

CIV6006-CO1: Illustrate the general behavior and design procedure for building frames by limit state approach *Analysis*

CIV6006-CO2: Sketch the reinforcement details for RC flat slabs with and without drops *Application*

CIV6006-CO3: Compute the dimensions and area of steel for combined and mat foundation as per BIS code provisions *Application*

CIV6006-CO4: Demonstrate the design procedure for cantilever and counterfort retaining walls *Application*

32. Course Name: Retrofitting and Repair Techniques (DE - I)

Course Code: CIV6004

CIV6004-CO1: Describe the causes for deterioration of structures *Knowledge*

CIV6004-CO2: Explain the Non-Destructive Test NDT methods available for conditional field assessment of a structure *Comprehension*

CIV6004-CO3: Choose repair materials to retrofit a deficient member *Comprehension*

CIV6004-CO4: Demonstrate appropriate method for retrofitting a distressed structure *Application*



School Of Engineering
Department of Electronics and Communication Engineering

1. Course Name: Linear Algebra and Calculus

Course Code: MAT1001

MAT1001-CO1: Demonstrate the application of matrix principles to obtain the different forms of a square matrix *Comprehension*

MAT1001-CO2: Apply the concepts solution of partial derivatives for two variable functions *Comprehension*

MAT1001-CO3: Solve the integral functions of one, two and three variables *Application*

MAT1001-CO4: Apply the principles of solution of differential equations to obtain solution for a higher order differential equation *Comprehension*

MAT1001-CO5: Demonstrate the use of MATLAB software for solution of various differential, integral and linear algebra equations *Synthesis*

2. Course Name: Elements of Electronics Engineering

Course Code: ECE1001

ECE1001-CO1: Identify the various electrical and electronic components and significance of basic electrical laws *Comprehension level*

ECE1001-CO2: Explain applications of Diodes and BJTs *Comprehension level*

ECE1001-CO3: Summarize the concepts of Digital Electronics and Communication Systems *Comprehension level*

ECE1001-CO4: Discuss the basic concepts of microprocessor and computer organization *Comprehension level*

ECE1001-CO5: Perform experiments to familiarize various Electrical & Electronic components and equipment *Comprehension level*

ECE1001-CO6: Verify Basic Electrical Circuit configurations and Laws *Application*

3. Course Name: Network Theory

Course Code: ECE2004

ECE2004-CO2: State various network theorems. *Comprehensive*

ECE2004-CO3: Explain Superposition theorem, Thevenin's theorem and Maximum power transfer theorem. *Comprehensive*

ECE2004-CO4: Discuss the behavior of RL and RC circuits for DC and AC excitation. *Comprehensive*

ECE2004-CO5: Discuss the parameters of two port network *Comprehensive*



4. Course Name: Analog Electronics

Course Code: ECE2001

ECE2001-CO1: Discuss various fundamental parameters appearing in the characteristics of semiconductor devices and their applications *Knowledge*

ECE2001-CO2: Summarize the operations of different biasing configurations of BJTs and amplifiers *Comprehension*

ECE2001-CO3: Explain various types, characteristics and modes of FETs *Comprehension*

ECE2001-CO4: Review the operation of feedback amplifiers the working of various Oscillators *Comprehension*

ECE2001-CO5: Demonstrate the working of electronic circuits to obtain the V-I Characteristics of various semiconductor devices *Application*

ECE2001-CO6: Sketch the characteristics and waveforms relevant to standard electronic circuits. *Application*

5. Course Name: Digital Signal Processing

Course Code: ECE3002

ECE3002-CO1: Define Matlab coding signal conversion to sequence *Knowledge*

ECE3002-CO2: Compute the digital signal processing concepts using matlab *Comprehension*

ECE3002-CO3: Review the applications of FFT to DSP *Comprehension*

ECE3002-CO4: Compute simulation of DSP systems. *Comprehension*

6. Course Name: Microprocessor Programming and Interfacing

Course Code: ECE3003

ECE3003-CO1: Discuss the architecture and working principles of 8086 microprocessor *Knowledge*

ECE3003-CO2: Solve assembly language programming problems using coding and debugging skills. *Comprehension*

ECE3003-CO3: Demonstrate methods to interface memories, input/output devices and programmable peripheral devices to the microprocessor *Application*

ECE3003-CO4: Illustrate various important features and associated terminologies of advanced microprocessors like 80286-80486 and Pentium *Knowledge*

ECE3003-CO5: Execute assembly language programs for various categories of operations *Comprehension*

ECE3003-CO6: Interface various input / output devices using assembly language programming of programmable peripheral devices *Application*

7. Course Name: Electromagnetic Theory

Course Code: ECE3004



ECE3004-CO1: Explain the implications of Maxwell's equations, *Knowledge*

ECE3004-CO2: Understand the fundamental difference between electric and magnetic fields
Application

ECE3004-CO3: Describe the nature of conductor good and perfect and dielectrics lossy and lossless *Comprehension*

8. Course Name: Measuring Instruments and Sensors

Course Code: ECE3015

ECE3015-CO1: Describe the concepts of errors and measuring quantities *Knowledge*

ECE3015-CO2: Recognize various types of Analog, Digital Instruments and function generators *Comprehension*

ECE3015-CO3: Estimate the unknown parameters using bridge circuits *Comprehension*

ECE3015-CO4: Discuss various types of sensors and transducers *Comprehension*

9. Course Name: Analog Communication

Course Code: ECE3005

ECE3005-CO 1: Discuss the working principles of various amplitude modulation methods.
Comprehension

ECE3005-CO 2: Explain the techniques of frequency modulation to generate and detect FM waves. *Comprehension*

ECE3005-CO 3: Summarize various Pulse Modulation techniques. *Comprehension*

ECE3005-CO 4: Estimate the spectrum efficiency. *Comprehension*

ECE3005-CO 5: Describe the concepts of multiplexing *Comprehension*

10. Course Name: Control Systems

Course Code: ECE3007

ECE3007-CO1: Describe various systems and their representations using Block diagrams and Signal Flow graphs *Comprehension*

ECE3007-CO2: Employ time domain analysis to determine the transient performance parameters of the system. *Comprehension*

ECE3007-CO3: Explain the system stability in the frequency domain *Comprehension*

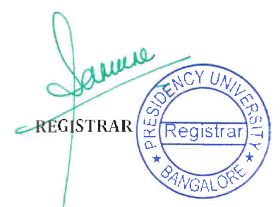
ECE3007-CO4: Identify the need of State space representation *Comprehension*

11. Course Name: VLSI Design

Course Code: ECE3008

ECE3008-CO1: Discuss the basic concepts of VLSI design. *Comprehension level*

ECE3008-CO2: Interpret the MOS transistor theory *Comprehension level*



ECE3008-CO3: Evaluate the working of various CMOS combinational and sequential circuits.
Comprehension level

ECE3008-CO4: Develop combinational and sequential circuits using Hardware Description Language. *Application level*

ECE3008-CO5: Compute various design parameters of digital circuits using cadence tool.
Application level

12. Course Name: Transmission Lines and Waveguides

Course Code: ECE3009

ECE3009-CO1: Understand the necessity and working of a transmission line *Comprehension*

ECE3009-CO2: Perform impedance matching using Smith chart and analytical methods
Application

ECE3009-CO3: Find E and H fields inside a metallic rectangular waveguide using Maxwell's equations *Application*

13. Course Name: Computational Intelligence and Machine Learning

Course Code: ECE3020

ECE3020-CO1: Analyze the fundamental concepts of neural networks *Comprehension*

ECE3020-CO2: Implement ML algorithms to regression, classification, clustering, and dimensionality reduction *Application*

ECE3020-CO3: Categorize the various pattern recognition techniques using machine learning into supervised and unsupervised *Comprehension*

14. Course Name: Introduction to Data Analytics

Course Code: ECE3106

ECE3106-CO1: Discuss the different steps to analyze Time Series data *Comprehension*

ECE3106-CO2: Classify the different data visualization methods used in data analytics
Comprehension

ECE3106-CO3: Apply the different statistical methods that are highly beneficial for data analytics. *Application*

ECE3106-CO4: Apply the different machine learning techniques with scikit-learn for data analytics *Application*

15. Course Name: Information Theory and Coding

Course Code: ECE216

ECE 216-CO1: Discuss the concept of dependent and independent source, measure of information, Entropy, rate of information and order of a source. *Comprehension*



ECE 216-CO2: Apply the information source using Shannon encoding, Shannon Fano, encoding and Huffman encoding algorithms. *Application*

ECE 216-CO3: Interpret the continuous and discrete communication channels using input, output and joint probabilities. *Application*

ECE 216-CO4: Illustration of a code word comprising of the check bits computed using linear block codes, cyclic codes and convolutional codes *Application*

16. Course Name: Microcontroller Applications

Course Code: ECE218

ECE 218-CO1: Distinguish the features, architecture and memory arrangement of 8051 Microcontroller with microprocessor *Comprehension*

ECE 218-CO2: Write assembly language programs for various operations *Comprehension*

ECE 218-CO3: Employ 8051 timers for various timing and serial interfacing applications *Application*

ECE 218-CO4: Use I/O ports to monitor and control various devices. *Application*

17. Course Name: Data Communication and Networking

Course Code: ECE221

ECE 221-CO1: Summarize the layers of OSI model, TCP/IP model associated with data communication *Comprehension*

ECE 221-CO2: Employ different types of protocols associated with each layer of OSI model and multiple access techniques *Application*

ECE 221-CO3: Demonstrate different techniques for connecting networking devices for LANs, Virtual Networks & backbone networks *Application*

ECE 221-CO4: Illustrate Application layer protocols *Application*

18. Course Name: Mobile Communication

Course Code: ECE304

ECE 304-CO1: Describe the infrastructure to build the mobile communication system. *Comprehension*

ECE 304-CO2: Summarize the characteristics of different multiple access techniques in mobile communication *Comprehension*

ECE 304-CO3: Discuss the basics of GSM and GPRS. *Comprehension*

ECE 304-CO4: Illustrate the concept of OSI model and mobile ad-hoc network. *Application*

19. Course Name: Satellite Communication

Course Code: ECE305

ECE 305-CO1: Explain the fundamental concepts of Satellite Communication *Knowledge*



ECE 305-CO2: Apply the concept of Link Budget calculation to a given case study. *Application*

ECE 305-CO3: Discuss the functions of various parts of Satellite including Space & Earth Segment *Comprehensive*

ECE 305-CO4: Summarize the applications of satellite mobile communication & adopted satellite systems *Comprehensive*

20. Course Name: Wireless Communication and Networks

Course Code: ECE311

ECE 311-CO1: Apply cellular concepts for reducing interference in mobile communication *Knowledge*

ECE 311-CO2: Distinguish various multiple access techniques along with area of its application *Comprehension*

ECE 311-CO3: Classify the various existing WLAN and WPAN network topologies *Application*

ECE 311-CO4: Summarize wireless communication standards based on architecture and operation *Application*

21. Course Name: Microcontroller Applications Lab

Course Code: ECE263

ECE 263-CO1: Identify the Integrated Development Environment IDE software Keil for development of programs. *Comprehension*

ECE 263-CO2: Developing of assembly level programs and providing the basics of the Microcontroller *Application*

ECE 263-CO3: Select and use a standard IDE for editing, compiling, debugging and simulation of ALP/C programs program development. *Application*

22. Course Name: Embedded System Design

Course Code: ECE6001

ECE6001-CO1: Select Embedded Systems and the components needed to develop such systems. *Comprehension*

ECE6001-CO2: Distinguish various ARM architecture versions and processors *Comprehension*

ECE6001-CO3: Program ARM processors using Assembly Language and C Languages *Application*

ECE6001-CO4: Interface various and develop various real world embedded applications *Application*

ECE6001-CO5: Develop Embedded C programs for various real world applications *Application*



23. Course Name: CMOS VLSI Design

Course Code: ECE6002

ECE6002-CO1: Summarize the minimization theories of Sequential Machines *Comprehension*

ECE6002-CO2: Discover the sequential circuit using programmable devices *Application*

ECE6002-CO3: Practice the techniques for fault modeling of digital systems. *Application*

ECE6002-CO4: Illustrate the various Fault diagnosis algorithm *Application*

24. Course Name: Advanced Digital System Design

Course Code: ECE5005

ECE5005-CO1: Summarize the minimization theories of Sequential Machines *Comprehension*

ECE5005-CO2: Discover the sequential circuit using programmable devices *Application*

ECE5005-CO3: Practice the techniques for fault modeling of digital systems. *Application*

ECE5005-CO4: Illustrate the various Fault diagnosis algorithm *Application*

25. Course Name: Software for Embedded Systems

Course Code: ECE5008

ECE5008-CO1: Summarize the concepts to develop software for real time embedded systems. *Comprehension*

ECE5008-CO2: Write efficient programs with IDE tools for embedded systems. *Application*

ECE5008-CO3: Demonstrate various programming steps using open source compilers and tools for embedded software development. *Application*

ECE5008-CO4: Explain various concepts of memory management, device drivers, timers and interrupt systems, interfacing of devices, communications and networking in embedded systems. *Synthesis*

26. Course Name: ASIC Design and Modelling

Course Code: ECE5009

ECE5009-CO1: Demonstrate the characteristic of ASICs with Programming technologies of Logic Devices *Comprehension*

ECE5009-CO2: Summarize the physical design process utilized in the design of ASICs *Application*

ECE5009-CO3: Analyze the faults and timing issues in the developed ASIC design *Analyze*

ECE5009-CO4: Classify the FPGA devices based on the architecture and design technology *Application*



School Of Engineering
Department of Electrical and Electronics Engineering

1. Course Name: Fundamentals of Electrical and Electronics Engineering

Course Code: EEE1001

EEE1001-CO1: Discuss the basic concepts of DC and AC circuits. *Comprehension*

EEE1001-CO2: Explain the basic theory and operation of DC and AC Machines *Comprehension*

EEE1001-CO3: Identify the use of electrical measurements and Instruments *Comprehension*

EEE1001-CO4: Discuss the basic electronic components and its applications *Comprehension*

EEE1001-CO5: Validate the basic laws of Electrical Engineering *Application*

EEE1001-CO6: Compute the various parameters in electrical and electronic circuits *Application*

2. Course Name: Electric Circuit Analysis

Course Code: EEE2002

EEE2002-CO1: Explain various network reduction techniques to reduce the complexity of circuits *Comprehension*

EEE2002-CO2: Summarize various network theorems *Comprehension*

EEE2002-CO3: Explain the behavior of RL and RC circuits for DC and AC excitation *Comprehension*

EEE2002-CO4: Discuss the parameters of two port network and relation between voltage, current and power in poly phase circuits *Comprehension*

3. Course Name: Signals and Systems

Course Code: EEE2001

EEE2001-CO1: Identify different types of signals and systems based on their properties *Comprehension*

EEE2001-CO2: Summarize the behaviour of LTI systems to periodic and aperiodic signals using Fourier Transforms. *Comprehension*

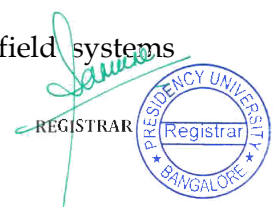
EEE2001-CO3: Discuss the transform- domain signal and frequency response using DFT *Comprehension*

EEE2001-CO4: Classify techniques of dealing with discrete systems using the z-transform. *Comprehension*

4. Course Name: Electromagnetic Fields

Course Code: EEE2003

EEE2003-CO1: Select the suitable coordinating system for Electromagnetic field systems *Comprehension*



EEE2003-CO2: Explain the concept of electrostatics fields *Comprehension*
EEE2003-CO3: Describe the principles of magneto statics fields *Application*
EEE2003-CO4: Summarize the static and time varying field equations. *Application*

5. Course Name: Analog Electronics Circuits

Course Code: EEE2009

EEE2009-CO1: Explain the characteristics of diodes and transistors *Comprehension*
EEE2009-CO2: Summarize the working of feedback amplifiers *Comprehension*
EEE2009-CO3: Describe the Explain various types, characteristics and modes of FETs *Comprehension*
EEE2009-CO4: Review the operation of power amplifiers and the working of various Oscillators *Comprehension*

6. Course Name: Digital Electronics

Course Code: EEE2015

EEE2015-CO1: Discuss the concepts of number systems, Boolean algebra, and logic gates *Comprehension*
EEE2015-CO2: Apply minimization techniques to simplify Boolean expressions *Application*
EEE2015-CO3: Employ the Combinational circuits for a given logic *Application*
EEE2015-CO4: Illustrate the Sequential logic circuits *Application*

7. Course Name: Electrical Machines-I

Course Code: EEE2016

EEE2016-CO1: Interpret the constructional details of the DC machines and Transformers and also understand the significance of different connections of three phase transformers *Comprehension*
EEE2016-CO2: Estimate or test the performance of any DC machine shunt, series or compound and single-phase transformer, by conducting suitable experiments and report the results. *Comprehension*
EEE2016-CO3: Experiment and analyze, the various speed control and braking techniques for dc motors *Comprehension*
EEE2016-CO4: Develop simulation models and prototype modules in view of implementing any control technique upon dc motors and single-phase transformers for various applications *Comprehension*

8. Course Name: Signals and Systems Laboratory

Course Code: EEE2060

EEE2060-CO1: Analyze various types of signals and systems. *Application*



EEE2060-CO2: Validate the concept of various signals and system operations. *Application*

EEE2060-CO3: Sketch the plot of pole-zero in s plane and z plane *Application*

EEE2060-CO4: Analyze the spectrum of signals using Fourier transform. *Application*

9. Course Name: Analog and Digital Electronics laboratory

Course Code: EEE2061

EEE2061-CO1: Sketch the characteristics and waveforms relevant to standard electronic circuits. *Application*

EEE2061-CO2: Demonstrate the working of electronic circuits to obtain the V-I Characteristics *Application*

EEE2061-CO3: Implement various combinational logic circuits using gates. *Application*

EEE2061-CO4: Construct combinational logic circuits and sequential circuits *Application*

10. Course Name: Power System Analysis

Course Code: EEE215

EEE215-CO1: Model the network of power system components *Application*

EEE215-CO2: Apply GS and NR methods to compute the load flow for given power system network. *Application*

EEE215-CO3: Analyze the fault current in power system for different types of faults *Application*

EEE215-CO4: Illustrate the concept of stability of power system. *Comprehension*

EEE215-CO5: Analyze the concept of contingency of power system. *Comprehension*

11. Course Name: Power System Protection

Course Code: EEE218

EEE218-CO1: Discuss the importance of protection in power system. *Comprehension*

EEE218-CO2: Explain the operation of fuses and switches in power system protection. *Comprehension*

EEE218-CO3: Identify various types of circuit breakers and their mechanism of operation. *Application*

EEE218-CO4: Illustrate the principles of protective relaying in conventional and modern relays. *Application*

12. Course Name: Power System Simulation Lab

Course Code: EEE262

EEE262-CO1: Develop a program in MATLAB/ Mi-Power to assess the YBus, and ZBus of the given power system network *Synthesis*



EEE262-CO2: Inference the power flow solution of the given power system network by using the Mi-Power software package. *Application*

EEE262-CO3: Inference the fault analysis of the given power system network by using Mi-Power software package. *Application*

EEE262-CO4: Demonstrate the stability analysis for the given power system network by using Mi-Power software package. *Application*

EEE262-CO5: Illustrate the economic load dispatch for the given power system. *Analysis*

EEE262-CO6: Examine the severity of the system by conducting contingency study for a given power system network *Analysis*

13. Course Name: Introduction to Electrical Drives

Course Code: EEE304

EEE304-CO1: Explain the dynamics of Electric Drives and multi-quadrant operation *Comprehension*

EEE304-CO2: Select the power converter in control of d.c drive systems. *Comprehension*

EEE304-CO3: Apply the suitable control method in induction motor drives *Application*

EEE304-CO4: Choose the proper Electric drive system for various industrial applications *Application*

14. Course Name: Utilization of Electrical Energy

Course Code: EEE311

EEE311-CO1: Illustrate working principle electric power utilization and their application in real life. *Knowledge*

EEE311-CO2: Choose proper traction systems depending upon application considering economic and technology up-gradation. *Knowledge*

EEE311-CO3: Employ mathematical and graphical analysis considering different practical issues to design of traction system; analyze the performance parameter of the traction system. *Comprehension*

EEE311-CO4: Examine various applications in indoor and outdoor application areas where use of light sources are essential. *Knowledge*

EEE311-CO5: Explain the configuration and performance of electric vehicles *Comprehension*

15. Course Name: Control Systems Engineering

Course Code: EEE2007

EEE2007-CO1: Express the transfer function for a variety of Electrical, Mechanical, Electromechanical systems using Signal Flow graphs. *Comprehension*

EEE2007-CO2: Summarize the time domain specifications for various test input signals and stability conditions based on zeros and poles of transfer function. *Comprehension*



EEE2007-CO3: Explain different types of analysis in time domain and frequency domain to know the *Comprehension*

EEE2007-CO4: Discuss the importance of compensation techniques and State variable model *Comprehension*

16. Course Name: Electrical and Electronics Measurements and Instrumentation

Course Code: EEE2012

EEE2012-CO1: Describe the importance of measurement systems in industries *Comprehension*

EEE2012-CO2: Explain different types of measuring instruments, their construction, operation and characteristics *Application*

EEE2012-CO3: Identify the instruments suitable for typical measurements *Comprehension*

EEE2012-CO4: Apply the knowledge about transducers and Instrument transformers to use them effectively *Comprehension*

EEE2012-CO5: Evaluate uncertainties involved in any measurement from experimental results *Comprehension*

17. Course Name: Power Electronics

Course Code: EEE2019

EEE2019 -CO1: Select the suitable semiconductor switching device in design of power converters *Comprehension*

EEE2019 -CO2: Apply the phase controlled technique in control of AC-DC converters with different loads *Application*

EEE2019 -CO3: Demonstrate the operation of Choppers and AC voltage controllers *Application*

EEE2019 -CO4: Explain the operation and control of Inverters *Comprehension*

18. Course Name: Electrical Distribution Systems

Course Code: EEE2020

EEE2020-CO1: Compute the various factors associated with the distribution systems. *Comprehension*

EEE2020-CO2: Develop Single line diagram of various types of Substations. *Comprehension*

EEE2020-CO3: Determine the voltage drop for the given feeder system. *Comprehension*

EEE2020-CO4: Identify the basic requirements of protection scheme and automation system. *Comprehension*

19. Course Name: Control Systems Engineering Lab

Course Code: EEE2063

EEE2063 -CO1: Summarize the time domain specifications for second order system *Application*



EEE2063 -CO2: Explain the behaviour of lag, lead and lag-lead compensating networks
Application

EEE2063 -CO3: Analyze the performance of P, PI, and PID controllers. *Application*

EEE2063 -CO4: Analyze the stability of LTI system using Root locus and Bode plots *Application*

20. Course Name: Power Electronics Lab

Course Code: EEE2065

EEE2065 -CO1: Demonstrate the characteristics of SCR, MOSFET, and IGBT by experimentation *Application*

EEE2065 -CO2: Illustrate operation of power converters for various loads *Application*

EEE2065 -CO3: Analyze the firing circuits and commutation circuits for converters *Application*

EEE2065 -CO4: Demonstrate the speed control of machines using converters *Application*

21. Course Name: Special Electrical Machines

Course Code: EEE3004

EEE3004-CO1: Explain the construction, principle of operation and power converter for switched reluctance motor and stepper motor *Comprehension*

EEE3004-CO2: Explain construction, principle of operation, theory of torque production in brushless DC motor and Permanent magnet synchronous motor *Comprehension*

EEE3004-CO3: Illustrate the control aspect of special electrical machines using Lab VIEW/MATLAB *Application*

EEE3004-CO4: Interpret the features of electric motors for Traction applications. *Application*

22. Course Name: Control Systems for Robotic Applications

Course Code: EEE3052

EEE3052-CO1: Summarize different methodologies of time and frequency domain analysis to infer about the stability of the system. *Comprehension*

EEE3052-CO2: Explain the importance of feedback controllers *Comprehension*

EEE3052-CO3: Explain the importance of various State variable models *Comprehension*

EEE3052-CO4: Discuss about non-linear control systems *Comprehension*

EEE3052-CO5: Analyse the time domain specifications for second order system *Application*

EEE3052-CO6: Explain the behaviour of lag, lead and lag-lead compensating networks
Application

School Of Engineering
Department of Learning and Development



1. Course Name: Introduction to soft skills

Course Code: PPS1001

PPS1001-CO1: Prepare professional social media profile *Knowing*

PPS1001-CO2: Recognize the significance of soft skills *Applying*

PPS1001-CO3: List the techniques of unlearning poor habits and forming healthy habits *Knowing*

PPS1001-CO4: Demonstrate appropriate team behavior & people management *Applying*

PPS1001-CO5: Identify traits, skills and attributes required for adaptability *Understanding*

PPS1001-CO6: Identify styles of communication *Understanding*

2. Course Name: Personality Development-Basics

Course Code: PPS1003

PPS1003-CO1: Demonstrate confidence and effective communication. *Application*

PPS1003-CO2: Prepare for impressive professional and social interactions *Synthesis*

PPS1003-CO3: Recognize proper grooming standards and corporate etiquette *Comprehension*

PPS1003-CO4: Understand team behaviour *Understand*

3. Course Name: Personality Development-Advanced

Course Code: PPS3003

PPS3003-CO1: Demonstrate effective communication *Understanding*

PPS3003-CO2: Recognize one's strengths in order to effectively set goals *remembering*

PPS3003-CO3: Prepare professional resumes *creating*

PPS3003-CO4: Apply skills and knowledge learned for active and effective group discussions. *Applying*

PPS3003-CO5: Show interview readiness. *Understanding*

4. Course Name: Stress Management & Well Being

Course Code: PPS1008

PPS1008-CO1: Describe basic concepts related to stress *Knowledge*

PPS1008-CO2: Explain the different types and associated effects of stress *Comprehension*

PPS1008-CO3: Recognize the stress signals and their effects in college life *Comprehension*

PPS1008-CO4: Explain the concepts related to stress Psychophysiology *Comprehension*

PPS1008-CO5: Practice stress relieving techniques *Application*

5. Course Name: Problem Solving through Aptitude

Course Code: PPS3001



PPS3001-CO1: Recall all the basic mathematical concepts they learnt in high school. *Recall*

PPS3001-CO2: Identify the principle concept needed in a question. *Identify*

PPS3001-CO3: Solve the quantitative and logical ability questions with the appropriate concept. *Solve*

PPS3001-CO4: Analyze the data given in complex problems. *Analyze*

6. Course Name: Reasoning and Employment Skills

Course Code: PPS2001

PPS2001-CO1: Demonstrate quick thinking skills *Understanding*

PPS2001-CO2: Recognize the skills required to work in a team *Remembering*

PPS2001-CO3: Define Conflict Resolution *Remembering*

PPS2001-CO4: Select strategy to resolve conflict *Applying*

PPS2001-CO5: Analyze information critically *Analyzing*



School Of Engineering
Department of Languages

1. Course Name: Technical English

Course Code: ENG1002

ENG1002-CO1: Examine the function and purpose of communication and email writing
Knowledge

ENG1002-CO2: Apply language skills for writing technical descriptions. *Application*

ENG1002-CO3: Express their ideas and designs clearly. *Application*

ENG1002-CO4: Identify the language skills required for technical proposal writing *Application*

2. Course Name: Essentials of English

Course Code: ENG1004

ENG1004-CO1: Demonstrate the ability to reflect upon and comment on texts with various themes *Application*

ENG1004-CO2: Apply basic rules of grammar *Application*

ENG1004-CO3: Use proper vocabulary in different contexts for better communication
Application

ENG1004-CO4: Examine uses of English languages at workstations *Application*

3. Course Name: Communicative English

Course Code: ENG1003

ENG1003-CO1: Define basic Communication Process. *Comprehension*

ENG1003-CO2: Apply speaking skills in various situations *Application*

ENG1003-CO3: Demonstrate writing strategies in business letters *Application*

ENG1003-CO4: Identify the ideas of the author in the text. *analysis*

4. Course Name: Law and Language

Course Code: ENG3002

ENG3002-CO1: Express using English language skills in listening, speaking, reading and writing by having learners engage in a range of communicative tasks and activities suiting legal context. *Application*

ENG3002-CO2: To recognize the use of strategies such as contextualization of new vocabulary and knowledge of discourse markers to aid the comprehension of written and spoken legal language. *Knowledge*

ENG3002-CO3: To employ grammatically correct and contextually appropriate language in speaking and writing legal documents. *Application*



ENG3002-CO4: Relate the art of comprehending case studies and questioning the practices as well as theories to build new aspects of knowledge *Comprehension*

5. Course Name: English for Employability

Course Code: ENG3001

ENG3001-CO1: Able to use appropriate vocabulary, pronunciation and accent. *Knowledge*

ENG3001-CO2: identify main ideas and supporting details while listening attentively *Comprehension*

ENG3001-CO3: Practice speaking ability in English both in terms of fluency and comprehensibility

Application

ENG3001-CO4: develop reading skills, reading speed and read to analyze and interpret information *Synthesis*

ENG3001-CO5: Capable of using the knowledge of mechanics of research writing and write a research article *Application*

6. Course Name: Reading Advertisements

Course Code: ENG1009

ENG1009-CO1: Review print and digital advertisements *Knowledge*

ENG1009-CO2: Infer content in advertisements and respond accordingly *Application*

ENG1009-CO3: Develop effective strategies to create advertisements *Application*

ENG1009-CO4: Create content for digital advertisements *Application*

7. Course Name: Mandarin Chinese for Beginners

Course Code: FRL1009

FRL1009-CO1: Apply the Pinyin system to read and write Mandarin Chinese *Knowledge*

FRL1009-CO2: Utilize Chinese radicals as an efficient learning strategy of Chinese characters. *Comprehension*

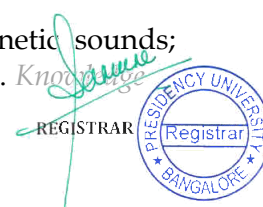
FRL1009-CO3: Make use of Mandarin Chinese on every day topics such as greetings, personal information, time and schedule. *Application*

FRL1009-CO4: Discover the culture differences and communicate in a culturally appropriate manner with native speakers. *Application*

8. Course Name: Kali Kannada

Course Code: KAN1001

KAN1001-CO1: Read and write the alphabet and a few words using phonetic sounds; comprehend and speak Kannada for basic reading ability and social interaction. *Knowledge*



KAN1001-CO2: Be capable of communicating in basic Kannada and use a variety of terminology to understand the viewpoints of others. *Comprehension*

KAN1001-CO3: Understand simple Kannada in various contexts. *Application*

KAN1001-CO4: Be respectful to the regional language and culture. *Application*

9. Course Name: Sarala Kannada

Course Code: KAN1002

KAN1002-CO1: Read and write the alphabet and a few words using phonetic sounds; comprehend and speak Kannada for basic reading ability and social interaction. *Knowledge*

KAN1002-CO2: Be capable of communicating in basic Kannada and use a variety of terminology to understand the viewpoints of others. *Comprehension*

KAN1002-CO3: Understand simple Kannada in various contexts. *Application*

KAN1002-CO4: Be respectful to the regional language and culture. *Application*

10. Course Name: Savi Kannada

Course Code: KAN2002

KAN2002-CO1: Recognize the importance of Social and human values in Contemporary Kannada Literature *Knowledge*

KAN2002-CO2: Discuss folk literature, political, social, spiritual and cultural aspects in Kannada and Karnataka. *Comprehension*

KAN2002-CO3: Relate the skills of agriculture, trade, commerce and Technology to activities in day to day life. *Application*

KAN2002-CO4: Demonstrate the principle of universal human values while dealing with interpersonal conflicts in the context of modern era. *Comprehension*

KAN2002-CO5: Illustrate the importance of Nature. *Analysis*

KAN2002-CO6: Analyze of the growth of Kannada Language, Kannada-ism and Kannada culture and tradition. *Analysis*

11. Course Name: Business Communication

Course Code: ENG2006

ENG2006-CO1: Define business communication process *Knowledge*

ENG2006-CO2: Demonstrate competence in verbal business communication *Application*

ENG2006-CO3: Practice formal written communication *Application*

ENG2006-CO4: Use standard formats and techniques of business communication *Application*

12. Course Name: Thili Kannada

Course Code: KAN2001



KAN2001-CO1: The course helps to improve the thoughts and insights on changes of the era through short stories in Kannada. *Knowledge*

KAN2001-CO2: It develops discussion ability through social, political, religious, cultural and sexual matters. *Comprehension*

KAN2001-CO3: It helps to co relate life related subject with agriculture, commercial, technical related skills. *Application*

KAN2001-CO4: Helps to manage the conjecture and problem of life in kind manner *analysis*



School Of Engineering
Department of Mathematics

1. Course Name: Calculus & Linear Algebra

Course Code: MAT1001

MAT1001-CO1: Demonstrate the application of matrix principles to obtain the different forms of a square matrix *Comprehension*

MAT1001-CO2: Apply the concepts solution of partial derivatives for two variable functions *Comprehension*

MAT1001-CO3: Solve the integral functions of one, two and three variables *Application*

MAT1001-CO4: Apply the principles of solution of differential equations to obtain solution for a higher order differential equation *Comprehension*

MAT1001-CO5: Demonstrate the use of MATLAB software for solution of various differential, integral and linear algebra equations *Comprehension*

2. Course Name: Discrete Mathematical Structures

Course Code: MAT2004

MAT2004-CO1: Explain logical sentences through predicates, quantifiers and logical connectives. *Comprehension*

MAT2004-CO2: Comprehend the basic principles of set theory and different types of relations. *Comprehension*

MAT2004-CO3: Elucidate the concepts of lattices and Boolean algebra. *Comprehension*

MAT2004-CO4: Deploy the counting techniques to tackle combinatorial problems. *Comprehension*

3. Course Name: Applied Statistics

Course Code: MAT1003

MAT1003-CO1: Apply the techniques of descriptive statistics effectively *Application*

MAT1003-CO2: Interpret the ideas of probability and conditional probability *Application*

MAT1003-CO3: Demonstrate the knowledge of probability distributions *Application*

MAT1003-CO4: Compute statistical parameters, correlation and regression, probability using R software *Application*

4. Course Name: Advanced Engineering Mathematics

Course Code: MAT6001

MAT6001-CO1: Explain the concepts of vector spaces and linear transformations. *Comprehension*



MAT6001-CO2: Solve linear and nonlinear algebraic, transcendental and differential equations by means of numerical methods. *Comprehension*

MAT6001-CO3: Demonstrate the use of optimization techniques to deal with real-life problems *Comprehension*

MAT6001-CO4: Employ PERT and CPM techniques to tackle network problems. *Comprehension*

5. Course Name: Applied Mathematics

Course Code: MAT2007

MAT2007-CO1: Understand the basic principles of trigonometry and analytical geometry and their applications *Comprehension*

MAT2007-CO2: Comprehend the concepts of differential calculus and its applications *Comprehension*

MAT2007-CO3: Explain various methods of integration and their advantages *Comprehension*

MAT2007-CO4: Apply matrix techniques to solve system of linear equations *Comprehension*

6. Course Name: Matrix Computations for Data Science

Course Code: MAT2023

MAT2023-CO1: Apply matrix techniques to solve linear systems. *Comprehension*

MAT2023-CO2: Understand matrices and determinants and relate them to vector spaces. *Comprehension*

MAT2023-CO3: Demonstrate the knowledge of eigen-decomposition and singular value decomposition *Comprehension*

MAT2023-CO4: Explain how to solve over-determined systems via least squares *Application*

7. Course Name: Basic Mathematics for Economists

Course Code: MAT1011

MAT1011-CO1: Use properties of numbers to solve real world problems. *Comprehension*

MAT1011-CO2: Understand the role of numbers in other branches of Mathematics. *Comprehension*

MAT1011-CO3: Comprehend various factors in connection with Interest and discounts. *Comprehension*

MAT1011-CO4: Determine the derivatives of a function *Comprehension*

MAT1011-CO5: Apply different properties of matrices to solve system of linear equations. *Comprehension*

8. Course Name: Optimisation Techniques

Course Code: MAT2054



MAT2054-CO1: To create analytical ability among students by using Mathematical techniques and decision making ability. *Knowledge*

MAT2054-CO2: To formulate a linear programming problem and solve it graphically. *Application*

MAT2054-CO3: To solve problems based on transportation, Decision Theory & Networks. *Application*



School Of Engineering
Department of Mechanical Engineering

1. Course Name: Engineering Graphics

Course Code: MEC1006

MEC1006-CO1: Demonstrate competency using AutoCAD graphics software as per BIS conventions and standards. *Knowledge*

MEC1006-CO2: Comprehend the theory of projection for drawing projections of Points, Lines and Planes under different conditions. *Application*

MEC1006-CO3: Prepare multiview orthographic projections of Solids by visualizing them in different positions. *Application*

MEC1006-CO4: 4 Prepare pictorial drawings using the principles of isometric projections to visualize objects in three dimensions. *Application*

2. Course Name: Elements of Mechanical Engineering

Course Code: MEC1004

MEC1004-CO1: Describe different types of energy resources, prime movers, refrigeration and air-conditioning system *Knowledge Level*

MEC1004-CO2: Explain various power transmission systems used in Mechanical Engineering *Comprehension Level*

MEC1004-CO3: Classify different metal cutting processes and machine tools used in industries *Knowledge Level*

MEC1004-CO4: Identify the different metal joining processes like Welding, Brazing and Soldering, 3D printing. *Knowledge Level*

3. Course Name: Basic Thermodynamics

Course Code: MEC4001

MEC4001-CO1: Summarize basic concept of thermodynamics. *Knowledge Level*

MEC4001-CO2: Apply the first law of thermodynamics to steady flow control volume *Knowledge Level*

MEC4001-CO3: Apply second law of thermodynamics to different thermodynamics cycle *Comprehension Level*

MEC4001-CO4: Compute properties of pure substances using steam table *Application Level*

4. Course Name: Material Science and Metallurgy

Course Code: MEC2016

MEC2016-CO1: Describe the crystal structure, crystal imperfections and diffusion processes in solids *Knowledge Level*



MEC2016-CO2: Describe the phases, phase diagrams and phase transformations
Comprehension Level

MEC2016-CO3: Discuss various heat treatment processes and their impact on material properties. *Comprehension Level*

MEC2016-CO4: Classify various engineering materials and their applications. *Comprehension Level*

5. Course Name: Mechanics of Solids

Course Code: MEC2011

MEC2011-CO1: Compute the Normal Stress and Strain in Mechanical components
APPLICATION LEVEL

MEC2011-CO2: Compute the Bending Stress and Deflections of Beams *APPLICATION LEVEL*

MEC2011-CO3: Compute Torsional Shear Stress and Strain in Shafts *APPLICATION LEVEL*

MEC2011-CO4: Explain the concepts of Principle Stress and Strain Transformations
COMPHREHENSION

6. Course Name: Computer Aided Machine Drawing

Course Code: MEC2017

MEC2017-CO1: Draw different fasteners, joints and sections of parts as per B.I.S & Practices
Knowledge level

MEC2017-CO2: Distinguish between cut sections of components and assembly by using knowledge of limits, fits and tolerances through drawings. *Comprehension level*

MEC2017-CO3: Demonstrate 3-D models of machine parts and assembly using CAD software enabling 2-D drawings *Application level*

MEC2017-CO4: Demonstrate the knowledge of surface modeling of 3-D components/parts
Application level

7. Course Name: Manufacturing Engineering

Course Code: MEC4040

MEC4040-CO1: Identify various single point cutting tool used in machining and its effect on tool life. *Knowledge*

MEC4040-CO2: Describe the various cutting tool materials used in machine tool operations.
Comprehension

MEC4040-CO3: Discuss the different plastic process techniques and its applications *Knowledge*

MEC4040-CO4: Explain different powder metallurgy characteristics and lean manufacturing principles *Comprehension*

MEC4040-CO5: Apply basic programs in CNC machining to develop the models. *Application*



8. Course Name: Design of Machine Elements-I

Course Code: MEC3004

MEC3004-CO1: Analyze machine components against static and dynamic loads using theories of failure *Comprehension*

MEC3004-CO2: Design springs for withstanding static and fatigue loads *Application*

MEC3004-CO3: Design welded, riveted and bolted joints for general applications *Application*

MEC3004-CO4: Design keys, cotter and knuckle joints for motion transmission. *Application*

MEC3004-CO5: Design shafts, design engine components like gear. *Application*

9. Course Name: Dynamics of Machines

Course Code: MEC4004

MEC4004-CO1: Identify static and dynamic forces in a scenario. *Comprehension*

MEC4004-CO2: Compute the flywheel dimensions for engine and punching press application *Application*

MEC4004-CO3: Illustrate the effect of gyroscopic couple on aero planes, ships and automotive vehicles. *Application*

MEC4004-CO4: Employ various methods to balance rotating and reciprocating masses *Application*

10. Course Name: Energy Conversion Engineering Lab

Course Code: MEC3032

MEC3032-CO1: Differentiate among different internal combustion engine designs *Comprehension*

MEC3032-CO2: Identify the various properties of fuels and lubricating oils *Comprehension*

MEC3032-CO3: Evaluate the engines performance characteristics of various engines. *Comprehension*

MEC3032-CO4: Analyze the performance of the engine with computerized set up which enables the understanding of pressure variation with crank angle during a cycle of operation *Comprehension*

11. Course Name: Control Engineering

Course Code: MEC3063

MEC3063-CO1: 1 Identify the type of control system, controllers, various test signals, compensators, stability, concepts, analogous systems and frequency response terminologies *Application*

MEC3063-CO2: 2 Develop mathematical models of mechanical, electrical, electro-mechanical and hydraulic control systems in order to obtain system response for given input test signals *Application*



MEC3063-CO3: 3 Obtain the transfer functions by applying block diagrams reduction techniques and signal flow graphs for different applications of control system *Application*

MEC3063-CO4: 4 Predict the stability of a control system by developing R-H criterion, bode and root locus plots *Application*

12. Course Name: I. C. Engine and Fuels

Course Code: MEC213

MEC213-CO1: Describe basic concepts of Internal Combustion Engines. *Knowledge level*

MEC213-CO2: Discuss different conventional and alternate fuels performance and its emission characteristics. *Comprehension*

MEC213-CO3: Select appropriate injection systems for the given Engine *Comprehension*

MEC213-CO4: Explain the stages of combustion in both SI and CI Engines and its Knock characteristics. *Comprehension*

MEC213-CO5: Explain the Emission Norms and Emission Control packages *Comprehension*

13. Course Name: Mechatronics

Course Code: MEC218

MEC218-CO1: Describe the fundamentals of mechatronic system and its applications. *Knowledge level*

MEC218-CO2: Identify the types of sensors, transducers and signal conditioning processes used in automated machines *Comprehension*

MEC218-CO3: Recognize sequencing schedule for a specific process using various actuating systems. *Comprehension*

MEC218-CO4: Describe logic gates and working of controllers. *Comprehension*

14. Course Name: Mechatronics Lab

Course Code: MEC256

MEC256-CO1: To Practically use the hydraulic and pneumatic circuits for given application. *Application*

MEC256-CO2: To identify the correct sequencing of pneumatic circuits and simulate in AUTOSIM-200 software. *Application*

MEC256-CO3: To understand the working principles of electric motors. *Application*

MEC256-CO5: Perform the experiment on speed control of stepper motors *Application*

15. Course Name: Modelling, Simulation & Analysis Lab

Course Code: MEC261

MEC261-CO1: Demonstrate the basic features of an analysis package *Application*



MEC261-CO2: Use the modern tools to formulate the problem, and able to create geometry, discretize, apply boundary condition to solve problems of bars, truss, beams, plate to find stress with different loading conditions *Application*

MEC261-CO3: Carry out dynamic analysis and finding natural frequencies for various boundary conditions and also analyze Thermal Stresses *Application*

MEC261-CO4: Carry out CNC part programming for simulation of various machining operations *Application*

16. Course Name: Flexible Manufacturing Systems

Course Code: MEC310

MEC310-CO1: Explain the function of NC, CNC and DNC machines *Knowledge Level*

MEC310-CO2: Analyze the Quantitative aspects of FMS. *Comprehension Level*

MEC310-CO3: Explain the Machine cell design and part families. *Comprehension Level*

MEC310-CO4: Outline the various production control issues and tool management *Comprehension Level*

MEC310-CO5: Explain the economic aspects and justification of FMS. *Application Level*

17. Course Name: Fundamentals of Aerospace Engineering II

Course Code: MEC312

MEC312-CO1: Solve problems based on the concepts of flowing gases and the standard atmosphere *Knowledge Level*

MEC312-CO2: Apply the principles of basic aerodynamics to airfoils *Comprehension Level*

MEC312-CO3: Calculate the thrust and power requirements for level, un-accelerated flight of an aircraft *Comprehension Level*

MEC312-CO4: Compute propulsive characteristics of aircraft and rocket engines *Comprehension Level*

18. Course Name: Programming in Java

Course Code: CSE408

CSE408-CO1: Explain object orientation concepts like classes, objects and arrays. *Comprehension*

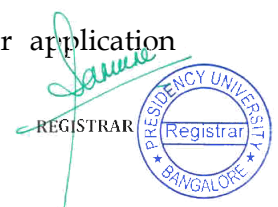
CSE408-CO2: Define constructors, packages, inheritance. *Comprehension*

CSE408-CO3: Express the concepts of error handling mechanism, input output streams to develop simple *Comprehension*

CSE408 -: applications and the classes and methods in utility packages *Application*

CSE408-CO4: Use multithreading, java database connectivity for basic applications. *Application*

CSE408-CO5: Apply different swing components and servlet concepts for application development. *Application*



19. Course Name: Finite Element Analysis

Course Code: MEC3005

MEC3005-CO1: Apply the principle of variational techniques to different machine/structural elements. *APPLICATION*

MEC3005-CO2: Analyze the structural integrity of a machine with rods and bars. *APPLICATION*

MEC3005-CO3: Analyze the structural integrity of a concrete building with beams and columns. *APPLICATION*

MEC3005-CO4: Analyze the structural integrity of a steel reinforced skywalk. *APPLICATION*

MEC3005-CO5: Analyze the temperature variation within an enclosure. *APPLICATION*

20. Course Name: Energy Conversion Lab

Course Code: MEC3032

MEC3032-CO1: Differentiate among different internal combustion engine designs *Comprehension*

MEC3032-CO2: Identify the various properties of fuels and lubricating oils *Comprehension*

MEC3032-CO3: Evaluate the engines performance characteristics of various engines. *Comprehension*

MEC3032-CO4: Analyze the performance of the engine with computerized set up which enables the understanding of pressure variation with crank angle during a cycle of operation *Comprehension*

21. Course Name: Control Engineering

Course Code: MEC3063

MEC3063-CO1: 1 Identify the type of control system, controllers, various test signals, compensators, stability, concepts, analogous systems and frequency response terminologies *Application*

MEC3063-CO2: Develop mathematical models of mechanical, electrical, electro-mechanical and hydraulic control systems in order to obtain system response for given input test signals *Application*

MEC3063-CO3: Obtain the transfer functions by applying block diagrams reduction techniques and signal flow graphs for different applications of control system *Application*

MEC3063-CO4: Predict the stability of a control system by developing R-H criterion, bode and root locus plots *Application*

22. Course Name: Applied Thermodynamics

Course Code: MEC4003



MEC4003-CO1: Apply the first law and second law of thermodynamics to analyses the reciprocating internal combustion engine. *Application*

MEC4003-CO2: Apply the first law and second law of thermodynamics to analyses the gas turbine. *Application*

MEC4003-CO3: Apply the first law and second law of thermodynamics to analyses the vapor power cycle. *Application*

MEC4003-CO4: Apply the first law and second law of thermodynamics to analyses the refrigeration cycle. *Application*

23. Course Name: Digital Entrepreneurship

Course Code: MGT113

MGT113-CO1: Identify the prospects and challenges of digital entrepreneurship. *Knowledge*

MGT113-CO2: Explain the role of digital technologies for developing products and services. *Comprehension*

MGT113-CO3: Prepare business plan using business model canvas for digital entrepreneurial ventures. *Application*

MGT113-CO4: Solve problems related to Market potential, share and market size. *Analysis*

24. Course Name: CAD for Additive Manufacturing

Course Code: MEC3017

MEC3017-CO1: Understand basic concepts in model generation. *Knowledge*

MEC3017-CO2: Describe conversion of part files to IGES and STEP *Comprehension*

MEC3017-CO3: Identify Surface modelling methodologies in surface model generation *Knowledge*

MEC3017-CO4: Explain the concepts of solid modelling in additive manufacturing. *Comprehension*

25. Course Name: Fluid Mechanics

Course Code: MEC2010

MEC2010-CO1: Summarize the basic properties of fluids. *Knowledge*

MEC2010-CO2: Examine simple fluid flow problem by using Bernoulli equation *Comprehension*

MEC2010-CO3: Apply the control volume formulation of the basic laws to model physical systems *Application*

MEC2010-CO4: Examine certain types of flows using the Navier–Stokes equations *Application*

26. Course Name: Robotics

Course Code: MEC3060



- MEC3060-CO1:** Design a frame with an appropriate co-ordinate system *Knowledge*
- MEC3060-CO2:** Apply the concepts of kinetics and kinematics to a robot. *Application*
- MEC3060-CO3:** Choose suitable trajectory generation scheme for a robot tasks. *Application*
- MEC3060-CO4:** Identify the types of sensor used in various applications. *Knowledge*

27. Course Name: Material and Characterisation Techniques

Course Code: MEC3012

- MEC3012-CO1:** Identify the different engineering materials and associated properties *Knowledge*
- MEC3012-CO2:** Choose appropriate microscopy techniques to investigate microstructure of materials at high resolution. *Comprehension*
- MEC3012-CO3:** Explain the material composition and their phases using diffraction techniques. *Comprehension*

28. Course Name: Elements of Mechanical Engineering

Course Code: MEC1004

- MEC1004-CO1:** Describe different types of energy resources, prime movers, refrigeration and air-conditioning system. *Knowledge*
- MEC1004-CO2:** Explain various power transmission systems used in Mechanical Engineering. *Knowledge*
- MEC1004-CO3:** Classify different metal cutting processes and machine tools used in industries. *Knowledge*
- MEC1004-CO4:** Identify the different metal joining processes like Welding, Brazing and Soldering, 3D printing. *Knowledge*

29. Course Name: Reliability Engineering

Course Code: MEC3015

- MEC3015-CO1:** Describe engineering fundamentals to different types of maintenance *Knowledge*
- MEC3015-CO2:** Analyze the impact of reliability of an equipment with the help of failure data analysis *Application*
- MEC3015-CO3:** Analyze the components of a mechanical system using equipment's system reliability *Application*
- MEC3015-CO4:** Explain maintainability & availability concepts *Comprehension*

30. Course Name: Additive Manufacturing

Course Code: MEC3019

- MEC 3019-CO1:** Identify the different



AM techniques. *Knowledge level*

MEC 3019-CO2: Explain the

Design considerations in AM. *Comprehension level*

MEC 3019-CO3: Illustrate the post

processing for AM parts. *Comprehension level*

MEC 3019-CO4: Summarize the

AM process selection and its applications. *Comprehension level*

31. Course Name: Introduction To Additive Manufacturing & Its Application-DE-II

Course Code: MEC3002

MEC3002-CO1: Identify the different

AM techniques. *Knowledge level*

MEC3002-CO2: Explain the

Design considerations in AM. *Comprehension level*

MEC3002-CO3: Illustrate the post

processing for AM parts. *Comprehension level*

MEC3002-CO4: Summarize the

AM process selection and its applications. *Comprehension level*

32. Course Name: Dissertation/Internship II

Course Code: PIP6002

PIP6002-CO1: Identify the engineering problems related to local, regional, national or global needs. *Comprehension*

PIP6002-CO2: Apply appropriate techniques or modern tools for solving the intended problem. *Application*

PIP6002-CO3: Design the experiments as per the standards and specifications. *Synthesis*

PIP6002-CO4: Interpret the events and results for meaningful conclusions. *Analysis*

PIP6002-CO5: Appraise project findings and communicate effectively through scholarly publications. *Evaluation*



School Of Engineering
Department of Petroleum Engineering

1. Course Name: Enhanced Oil Recovery

Course Code: PET216

PET216-CO1: Choose polymer for chemical enhanced oil recovery *Application*

PET216-CO2: Determine the recovery efficiency for alkali and surfactant flooding process *Application*

PET216-CO3: Calculate the heat loss during steam flooding process *Application*

PET216-CO4: Apply miscible gas injection process for enhanced oil recovery *Application*

PET216-CO5: Implement the Microbial Enhanced Oil Recovery process in hydrocarbon reservoir *Application*

2. Course Name: Petroleum Refining and Petrochemicals

Course Code: PET217

PET217-CO1: Describe important properties of petroleum products and test methods *Knowledge*

PET217-CO2: Explain various distillation processes *Comprehension*

PET217-CO3: Illustrate different thermal and catalytical Processes *Comprehension*

PET217-CO4: Explain various treatment techniques used for petroleum fractions *Comprehension*

3. Course Name: Offshore Drilling and Production

Course Code: PET229

PET229-CO1: Discuss the offshore sea environment *Comprehension*

PET229-CO2: Analyze station keeping mechanism of offshore structures *Analysis*

PET229-CO3: Categorize various fix and floating offshore platforms *Analysis*

PET229-CO4: Distinguish between the offshore production facilities *comprehension*

4. Course Name: Petroleum Testing Lab

Course Code: PET256

PET256-CO1: Recognize basic equipment and experiments related to petroleum product testing *Knowledge*

PET256-CO2: Determine the specific gravity of product sample *Comprehension*

PET256-CO3: Estimate the viscosity of different products *Application*



PET256-CO4: Compute the flash point and fire point of petroleum products *Application*

PET256-CO5: Identify the penetration index of petroleum products *Knowledge*

PET256-CO6: Calculate the refractive index of product sample *Application*

5. **Course Name:** Introduction to Oil and Gas Industry

Course Code: PET1002

PET1002-CO1: Describe the Oil and Gas industry *Knowledge*

PET1002-CO2: Outline the life cycle of a well *Knowledge*

PET1002-CO3: Summarize Oil and Gas processing facilities *Comprehension*

PET1002-CO4: Review the climate change *Comprehension*

6. **Course Name:** Pipeline Engineering

Course Code: PET303

PET303-CO1: Compute the pressure required to transport liquids and gases through pipelines *Application*

PET303-CO2: Locate the optimum position for installing pumps and compressors *Comprehension*

PET303-CO3: Explain different aspects of material selection, fabrication, maintenance, and integrity of a pipeline *Comprehension*

PET303-CO4: Determine the economic feasibility of a pipeline project *Application*

7. **Course Name:** Health, Safety and Environment

Course Code: PET308

PET308-CO1: Recognize importance of reliability and safety at workplace *Knowledge*

PET308-CO2: Identify different health hazards and acts related to their control *Application*

PET308-CO3: Demonstrate the safety practices applicable in drill site *Application*

PET308-CO4: Illustrate the methods to control oil spill and treat waste water *Application*

8. **Course Name:** Oil Field Development and Reservoir Management

Course Code: PET319

PET319-CO1: Discuss decision making process of field development projects and related economical criteria *Knowledge*

PET319-CO2: Describe main reservoirs monitoring techniques allowing to apply IOR/EOR methods and increase recovery *Comprehension*

PET319-CO3: Discuss main concepts of risks and uncertainties and their integration into reserves evaluation *Knowledge*



PET319-CO4: Discuss main concepts of Reservoir Management, process and economics
Knowledge

9. Course Name: Petroleum Geology

Course Code: PET1001

PET1001-CO1: Describe different processes acting below and above the surface of the earth
Comprehension

PET1001-CO2: Explain the role of petroleum system in the oil and gas industry *Application*

PET1001-CO3: Recognize different types of sedimentary basins and sedimentary environments *Application*

PET1001-CO4: Apply basic knowledge of geology while performing laboratory experiments
Application

10. Course Name: Fundamentals of Instrumentation and Control Engineering

Course Code: PET2005

PET2005-CO1: Illustrate the dynamic behavior and feedback loops for linear systems
Application

PET2005-CO2: Apply the concept of various response of first and second order systems
Application

PET2005-CO3: Analyze the open and closed loop stability and performance of simple processes *Application*

11. Course Name: Fundamentals of Oil and Gas Production Technology

Course Code: PET2006

PET2006-CO1: Apply the knowledge of IPR, TPR and nodal analysis for determining various well performance parameters *Application*

PET2006-CO2: Illustrate different pumps for artificial lift techniques *Comprehension*

PET2006-CO3: Compute various operating parameters of gas lift technique *Application*

PET2006-CO4: Discuss ESP and other pumps along with their components and working principle *Comprehension*

12. Course Name: Heat and Mass Transfer for Petroleum Engineering

Course Code: PET2008

PET2008-CO1: Solve the heat transfer problems of Conduction and Convection *Application*

PET2008-CO2: Illustrate the concept of radiation and the working of heat exchanger
Application

PET2008-CO3: Apply diffusive and convective mass transfer equations to solve problems for different applications *Application*



13. Course Name: Reservoir Fluid Mechanics

Course Code: PET2012

PET2012-CO1: Summarize the basic properties of fluids *Application*

PET2012-CO2: Employ the concept of hydrostatics to pressure measuring devices *Application*

PET2012-CO3: Apply the principle of energy conservation to flow measuring devices *Application*

PET2012-CO4: Calculate different parameters for compressible fluid flow *Application*

PET2012-CO5: Interpret the fluid dynamics theoretical knowledge with lab experiments *Application*

14. Course Name: Coal Bed Methane

Course Code: PET2015

PET2015-CO1: Explain the origin of coal bed methane *Comprehension*

PET2015-CO2: Illustrate the process of evaluating coal bed methane using wireline logs *Application*

PET2015-CO3: Demonstrate the critical factors of coal bed methane wells and emerging practices *Application*

PET2015-CO4: Analyze the basic data for coal bed methane projects *Analysis*

15. Course Name: Natural Gas Hydrates

Course Code: PET2017

PET2017-CO1: State the importance and scope of gas hydrates *Knowledge*

PET2017-CO2: Discuss the significance of thermodynamic studies for gas hydrates *comprehension*

PET2017-CO3: Describe the significance of kinetic studies for gas hydrates *Application*

PET2017-CO4: Explain the utility of gas hydrates for different applications *Application*

16. Course Name: Advanced Well Engineering

Course Code: PET3004

PET3004-CO1: Practice engineering design calculations involved in planning a well *Knowledge*

PET3004-CO2: Summarize well control equipment and well control methods *Application*

PET3004-CO3: Discuss about the drilling fluid system, practical rig hydraulics *comprehension*

PET3004-CO4: Outline well costing methods *comprehension*



17. Course Name: Natural Gas Reservoir Engineering

Course Code: PET3009

PET3009-CO1: Define the basic properties of natural gas *Knowledge*

PET3009-CO2: Predict different curves of IPR, TPR, CPR, WPR and Nodal Analysis *comprehension*

PET3009-CO3: Estimate the gas reserves *comprehension*

PET3009-CO4: Determine the gas well performance *comprehension*

18. Course Name: Introduction to Oil and Gas Industry

Course Code: PET1002

PET1002-CO1: Describe the Oil and Gas industry *Knowledge*

PET1002-CO2: Outline the life cycle of a well *Knowledge*

PET1002-CO3: Summarize Oil and Gas processing facilities *Comprehension*

PET1002-CO4: Review the climate change *Comprehension*

19. Course Name: Fundamentals of Oil and Gas Well Drilling Technology

Course Code: PET2003

PET2003-CO1: Compute the load capacity and power requirement of various rig components, *Application*

PET2003-CO2: Choose appropriate drill string components according to pressure requirements, *Application*

PET2003-CO3: Select appropriate casing string according to pressure requirements, *Comprehension*

PET2003-CO4: Classify drilling bits based on the drilling mechanism. *Comprehension*

20. Course Name: Thermodynamics of Reservoir Fluids

Course Code: PET2009

PET2009-CO1: Understand first law and second law of thermodynamics *Comprehension*

PET2009-CO2: Apply the thermodynamics understanding to fluid flow processes such as turbine and compressor *Application*

PET2009-CO3: Classify different types of oil and gas reservoirs based on the fundamentals of reservoir fluid behavior and properties *Application*

PET2009-CO4: Interpret the theoretical knowledge of thermodynamics with lab experiments *Application*

21. Course Name: Introduction to Geoinformatics

Course Code: PET2013



PET2013-CO1: Identify the different types of maps *Knowledge*

PET2013-CO2: Explain various Remote Sensing process *Comprehension*

PET2013-CO3: Interpret the Visual Image and Digital Image *Application*

PET2013-CO4: Describe the various GIS operations *Application*

22. Course Name: Wellbore Problems and Mitigation

Course Code: PET2024

PET2024-CO1: Describe different scenarios that may result in drill pipe sticking *Knowledge*

PET2024-CO2: Explain causes and mitigation of lost circulation *Knowledge*

PET2024-CO3: Interpret abnormal pore pressure based on shale pressure trend *Comprehension*

PET2024-CO4: Analyze kick tolerance and kill mud density under specified conditions
Comprehension



School Of Engineering Department of Physics

1. Course Name: Materials Physics

Course Code: PHY1001

PHY1001-CO1: Identify the crystal structure of materials from X-ray diffraction patterns.
Comprehension

PHY1001-CO2: Describe the mechanical, thermal and corrosive properties of materials.
Knowledge

PHY1001-CO3: Analyze the importance of material properties for a wide range of engineering applications. *Comprehension*

PHY1001-CO4: Students can able to Design, build, or assemble a part, product, or system using specific methodologies, equipment and materials. *Application*

2. Course Name: Optoelectronics and Device Physics

Course Code: PHY1002

PHY1002-CO1: Describe the concepts of semiconductors, magnetic materials and superconductors *Knowledge*

PHY1002-CO2: Apply the concept of materials in the working of optoelectronic and magnetic devices.

Application

PHY1002-CO3: Discuss the quantum concepts used in advanced microscopy and quantum computers *Comprehension*

PHY1002-CO4: Explain the applications of lasers and optical fibers in various technological fields *Application*

PHY1002-CO5: Interpret the results of various experiments to verify the concepts used in optoelectronics and advanced devices. *Application*

3. Course Name: Essentials of Physics

Course Code: PHY1009

PHY1009-CO1: Define the basic terminology used in Physics *Knowledge*

PHY1009-CO2: Describe the laws of motion, forces and energy *Knowledge*

PHY1009-CO3: Determine the influence of external environment on the behavior and response of an object *Comprehension*



School of Commerce and Economics

1. Course Name: Financial Accounting

Course Code: COM101

COM101-CO1: Describe the basic principles of accounting *Knowledge*

COM101-CO2: Explain the process of preparation of books of accounts *Comprehension*

COM101-CO3: Discuss the different methods of recording transactions in the subsidiary books *Comprehension*

COM101-CO4: Compute the cash price under the Hire Purchase System *Application*

COM101-CO5: Prepare the final accounts of a sole trading concern *Application*

2. Course Name: Principles and Practices of Management

Course Code: COM102

COM102-CO1: Knowledge *Discuss the various functions of Management*

COM102-CO2: Comprehension *Explain the Planning process and types*

COM102-CO3: Comprehension *Express the process of Organization*

COM102-CO4: Comprehension *Identify the theories of Motivation and Leadership*

COM102-CO5: Comprehension *Recognize the Importance of managerial Communication*

3. Course Name: Business Environment and Policy

Course Code: COM103

COM103-CO1: Explain the internal and external factors that impact the business *Comprehension*

COM103-CO2: Discuss the macro-economic policies in India *Comprehension*

COM103-CO3: Review the impact of globalization on Indian business *Comprehension*

COM103-CO4: Summarize the impact of technological factors on Income business *Comprehension*

COM103-CO5: Identify the factors of Natural Environment that impact the business *Comprehension*

4. Course Name: Micro Economics

Course Code: COM104

COM104-CO1: Describe the basic concepts of Economics *Knowledge*

COM104-CO2: Explain the principles of Demand and Supply *Comprehension*

COM104-CO3: Discuss the concepts of consumption in Economics *Comprehension*

COM104-CO4: Explain the concepts of Market structure *Comprehension*



COM104-CO5: Summarize the aspects of Labor market *Comprehension*

5. Course Name: Corporate Accounting-II

Course Code: COM301

COM301-CO1: Discuss the procedure for redemption of preference shares *Comprehension*

COM301-CO2: Discuss the process of preparing banking company accounts *Comprehension*

COM301-CO3: Discuss the procedure of insurance company accounts *Comprehension*

COM301-CO4: Explain the procedure of calculation of goodwill *Comprehension*

COM301-CO5: Discuss the procedure of inflation Accounting *Comprehension*

6. Course Name: Company Law

Course Code: COM302

COM302-CO1: Describe the formation of Joint stock company *Knowledge*

COM302-CO2: Explain the practices of share capital and debentures *Comprehension*

COM302-CO3: Discuss the activities of Managing personnel *Comprehension*

COM302-CO4: Explain the procedures meeting and resolutions *Comprehension*

COM302-CO5: Discuss the process of winding up a company *Comprehension*

7. Course Name: Financial Management

Course Code: COM303

COM303-CO1: Outline the concept and nature of Finance, Financial Management and Financial Manager *Knowledge*

COM303-CO2: Discuss the Theory of Time value of Money *Comprehension*

COM303-CO3: Explain the Investment, Financing Decisions and Dividend decision of an Organization *Comprehension*

COM303-CO4: Recognize various working capital management models *Comprehension*

COM303-CO5: Summarize the policies for managing receivables *Comprehension*

8. Course Name: Organizational Behavior

Course Code: COM304

COM304-CO1: Predict the influence of individual behavior, group behavior and structure in improving the organizational effectiveness *Comprehension*

COM304-CO2: Demonstrate the individual behavior concepts for making people related decisions at workplace. *Application*

COM304-CO3: Construct methods to enhance employee productivity in different workplace situations. *Comprehension*



COM304-CO4: Explain the effectiveness of teams, groups and leaders. *Comprehension*

COM304-CO5: Explain steps to manage organizational change and development in various context and settings *Comprehension*

9. Course Name: Introduction to Spreadsheets

Course Code: COM305

COM305-CO1: Identify the real time open source data able to gain data literacy knowledge *Comprehension*

COM305-CO2: Critically analyse and evaluate financial statements using spread sheet *Application*

COM305-CO3: Prepare cash budget and do break even analysis *Application*

COM305-CO4: Illustrate the various charts to churn the data to help the marketers to bring strategic outcome *Application*

10. Course Name: Contemporary Management

Course Code: COM2003

COM2003-CO1: Explain the principles of Management *Comprehension*

COM2003-CO2: Review the importance of planning and organizing *Comprehension*

COM2003-CO3: Summarize various theories of motivation and selection process *Comprehension*

COM2003-CO4: Explain the techniques to overcome barriers in communication *Comprehension*

COM2003-CO5: Summarize the process of Change management *Comprehension*

11. Course Name: Business Decision Making

Course Code: COM2016

COM2016-CO1: Describe the various elements of the business environment and their influence on business. *Comprehension*

COM2016-CO2: Describe the various elements of the political and legal environment *Comprehension*

COM2016-CO3: Explain the economic systems and economic planning in India *Comprehension*

COM2016-CO4: Identify the socio- cultural environment impact on business decisions *Knowledge*

COM2016-CO5: Discuss the influence of various industrial policies of the government of Indian business decision making *Comprehension*

12. Course Name: Financial Information Systems

Course Code: COM3016



- COM3016-CO1:** Outline the difference between Data & Information *Knowledge*
- COM3016-CO2:** Describe the functions of various information system *Comprehension*
- COM3016-CO3:** Describe the applicability of financial information system *Comprehension*
- COM3016-CO4:** Explain the different methods available to manage Information systems *Comprehension*
- COM3016-CO5:** Explain the Audit standards and security system for IT *Comprehension*

13. Course Name: Cost Accounting

Course Code: COM2009

- COM2009-CO1:** Identify distinguish various types of costs involved in manufacturing a product *Knowledge*
- COM2009-CO2:** Summarize the preparation of Cost sheet quotation *Comprehension*
- COM2009-CO3:** Outline various costing methods *Comprehension*
- COM2009-CO4:** Summarize Practical applicability of Contract price determination *Comprehension*
- COM2009-CO5:** Outline various trends in Cost Control Techniques *Comprehension*

14. Course Name: Income Tax

Course Code: COM2015

- COM2015-CO1:** Describe the basics of Indian Income Tax System *Knowledge*
- COM2015-CO2:** Explain the Residential Status and Incidence of Tax *Comprehension*
- COM2015-CO3:** Explain the Exempted Incomes of individuals *Comprehension*
- COM2015-CO4:** Discuss the different Components of Salary *Comprehension*
- COM2015-CO5:** Discuss the Computation of House property Income *Comprehension*

15. Course Name: Business Economics

Course Code: SOC1002

- SOC1002-CO1:** Outline the concept of Managerial Economics and apply economic principles in decision making *Knowledge*
- SOC1002-CO2:** Identify the determinants of demand and supply for various goods and recognize the exceptions *Comprehension*
- SOC1002-CO3:** Explain the Diminishing Marginal Utility and Consumer's equilibrium *Comprehension*
- SOC1002-CO4:** Summarize the various Production functions and cost concepts relevant to decision making *Comprehension*
- SOC1002-CO5:** Recognize price determination in different market structures *Comprehension*



16. Course Name: Financial Accounting

Course Code: SOC2001

SOC2001-CO1: Describe the basic principles of accounting *Knowledge*

SOC2001-CO2: Explain the process of preparation of books of accounts *Comprehension*

SOC2001-CO3: Discuss the different methods of recording transactions in the subsidiary books *Comprehension*

SOC2001-CO4: Compute the cash price under the Hire Purchase System *Application*

SOC2001-CO5: Prepare the final accounts of a sole trading concern *Application*



School of Management-UG

1. Course Name: Business Analytics Fundamentals

Course Code: BAH101

BAH101-CO1: Describe the usage of data for Business decision making *Knowledge*

BAH101-CO2: Discuss the usage of excel in data analysis *Comprehension*

BAH101-CO3: Explain the steps involved in combining the data with power query *Comprehension*

BAH101-CO4: Illustrate the data computations through excel *Application*

BAH101-CO5: Demonstrate data projection through pivot tables *Application*

2. Course Name: Financial Planning and Performance

Course Code: MAH101

MAH101-CO1: Describe strategic planning and budgeting and recall the models of strategic planning with the process *Knowledge*

MAH101-CO2: Classify forecasting techniques and demonstrate the budget *Comprehension*

MAH101-CO3: Explain of budget to prepare an annual profit plan *Comprehension*

MAH101-CO4: Illustrate performance by using flexible budgets and compare actual results to planned results *Application*

MAH101-CO5: Explain the importance and use of standard cost systems *Comprehension*

3. Course Name: Genesis and Overview of Aviation

Course Code: AVM101

AVM101-CO1: Outline the evolution of Aviation Industry *Knowledge*

AVM101-CO2: Explain working of an aircraft *Comprehension*

AVM101-CO3: Recognize how aviation industry effects environment *Comprehension*

AVM101-CO4: Discuss functions of airport at different operational levels *Comprehension*

4. Course Name: Airport Operations

Course Code: AVM102

AVM102-CO1: List the components of airport and its organization structure *Knowledge*

AVM102-CO2: Interpret the process of Ground Handling *Application*

AVM102-CO3: Explain the current and emerging trends in baggage handling *Comprehension*

AVM102-CO4: Illustrate the different types of passenger handling process *Application*



5. Course Name: Financial Accounting

Course Code: MGT111

MGT111-CO1: Describe the basic principles of accounting *Knowledge*

MGT111-CO2: Explain the process of preparation of books of accounts *Comprehension*

MGT111-CO3: Discuss the different methods of recording transactions in the subsidiary books *Comprehension*

MGT111-CO4: Compute the cash price under the Hire Purchase System *Application*

MGT111-CO5: Prepare the final accounts of a sole trading concern *Application*

6. Course Name: Management and Behavioral Practices

Course Code: MGT112

MGT112-CO1: Describe the fundamentals of management *Knowledge*

MGT112-CO2: Discuss the principles of planning and decision-making *Comprehension*

MGT112-CO3: Explain the organizing process *Comprehension*

MGT112-CO4: Identify the principles of Controlling and Directing *Comprehension*

MGT112-CO5: Summarize behavior of organization in individuals and groups *Comprehension*

7. Course Name: Business Information System

Course Code: MGT113

MGT113-CO1: Describe the basics concepts and working of information technology *Knowledge*

MGT113-CO2: Explain the role of information systems support that enables the business functions *Comprehension*

MGT113-CO3: Discuss the concepts of BPR and E-enterprise *Comprehension*

MGT113-CO4: Outline how organizations effectively use information systems to achieve competitive advantage *Comprehension*

MGT113-CO5: Discuss the potential values emerging and disruptive technologies that brings organization success *Comprehension*

8. Course Name: Application of Business Analytics

Course Code: BAH103

BAH103-CO1: Describe the basic concepts of python *Knowledge*

BAH103-CO2: Discuss the aspects of conditional logic, branching and iteration *Comprehension*

BAH103-CO3: Explain dependent libraries usage, basic graphing and statistical analysis using graphs in Python *Comprehension*

BAH103-CO4: Illustrate Understanding data modelling for regression *Application*



BAH103-CO5: Demonstrate Decision Trees in Data handling and modelling *Application*

9. Course Name: Financial Reporting

Course Code: MAH103

MAH103-CO1: Discuss the line items of financial statements and prepare financial statements according to US GAAP and IFRS *Comprehension*

MAH103-CO2: Apply the accounting standards in measuring assets and evaluate its effect on income statements. *Application*

MAH103-CO3: Apply the accounting standards in measuring liabilities and evaluate its effect on income statements *Application*

MAH103-CO4: Apply how equity transactions are recorded and evaluate its effect on income statements *Application*

MAH103-CO5: Apply the revenue recognition principles in a company and evaluate its effect on income statements *Application*

10. Course Name: Reading Advertisement

Course Code: OE306

OE306-CO1: Review print and digital advertisements *Comprehension*

OE306-CO2: Infer content in advertisements and respond accordingly *Analysis*

OE306-CO3: Develop effective strategies to create advertisements *Synthesis*

OE306-CO4: Create content for digital advertisements *Synthesis*

11. Course Name: Financial Management

Course Code: MGT131

MGT131-CO1: Outline the concept and nature of Finance, Financial Management and Financial Manager *Knowledge*

MGT131-CO2: Discuss the Theory of Time value of Money *Comprehension*

MGT131-CO3: Explain the Investment, Financing Decisions and Dividend decision of an Organization *Comprehension*

MGT131-CO4: Recognize various working capital management models *Comprehension*

MGT131-CO5: Summarize the policies for managing receivables *Comprehension*

12. Course Name: Marketing Management

Course Code: MGT132

MGT132-CO1: Describe the basic concept of Marketing and its application in business *Knowledge*



MGT132-CO2: Infer the various internal and external factors which affects Marketing of a product in an organization *Comprehension*

MGT132-CO3: Explain marketing mix to meet growing needs of the customer *Comprehension*

MGT132-CO4: Identify the basis of segmentation, targeting and positioning for products and services *Comprehension*

MGT132-CO5: Summarize the factors influencing consumer behavior and its impact on consumer decision making process *Comprehension*

13. Course Name: Innovation and Creativity in Business

Course Code: MGT133

MGT133-CO1: Outline Creativity Techniques in Business *Knowledge*

MGT133-CO2: Recognize the role of leaders in enhancing creativity *Knowledge*

MGT133-CO3: Discuss types of innovation and its application in productprocess and service *Comprehension*

MGT133-CO4: Discuss the sources of new knowledge and ideas *Comprehension*

MGT133-CO5: Summarize the factors influencing commercialization of innovative ideas *Comprehension*

14. Course Name: Corporate Law

Course Code: MGT134

MGT134-CO1: Identify the contents of main documents of a Corporate *Comprehension*

MGT134-CO2: Summarize the duties and procedure of removal of a Director *Comprehension*

MGT134-CO3: Discuss the prevention of oppression and mismanagement *Comprehension*

MGT134-CO4: Summarize the modes of winding up of a company *Comprehension*

MGT134-CO5: Discuss Corporate governance models *Comprehension*

15. Course Name: Managerial Economics

Course Code: MGT135

MGT135-CO1: Outline Creativity Techniques in Business *Knowledge*

MGT135-CO2: Identify the determinants of demand and supply for various goods and recognize the exceptions *Knowledge*

MGT135-CO3: Explain the Diminishing Marginal Utility and Consumer's equilibrium *Comprehension*

MGT135-CO4: Summarize the various Production functions and cost concepts relevant to decision making *Comprehension*

MGT135-CO5: Recognize price determination in different market structures *Knowledge*



16. Course Name: Airport and Aircraft Emergencies and Safety Management

Course Code: AVM105

AVM105-CO1: State the components of safety management systems *Knowledge*

AVM105-CO2: Explain the procedures followed by airlines in different emergency scenario *Comprehension*

AVM105-CO3: Outline the importance of documentation in aviation industry *Knowledge*

AVM105-CO4: Illustrate the importance of reducing human errors for the safety of airport/aircraft *Application*

AVM105-CO5: Interpret the hazards caused by the different dangerous goods as classified by ICAO *Application*

AVM105-CO6: Explain the components of airline safety systems *Comprehension*

17. Course Name: Air Cargo and Logistics

Course Code: AVM106

AVM106-CO1: Discuss the types of cargo, and how freight is forwarded *Comprehension*

AVM106-CO2: Apply the process of cool chain business and logistics management *Application*

AVM106-CO3: Define the various security threats and risks in cargo management *Knowledge*

AVM106-CO4: Illustrate the inventory planning and management *Application*

AVM106-CO5: Explain the material handling and warehousing process *Comprehension*

18. Course Name: Industry Review Project

Course Code: MGT703

MGT703-CO1: Identify the management practices in a functional area of an organization *Knowledge*

MGT703-CO2: List the Management models for company analysis *Knowledge*

MGT703-CO3: Explain the outcome of each of the management tool. *Comprehension*

MGT703-CO4: Interpret the events and results for meaningful conclusions *Application*

MGT703-CO5: Appraise project findings and communicate effectively through scholarly publications. *Application*

19. Course Name: R for Business Analytics

Course Code: MGI239

MGI239-CO1: Describe the basics of R being used in the business analytics. *Knowledge*

MGI239-CO2: Classify different types of data structures in R *Comprehension*

MGI239-CO3: Identify different types of packages and libraries used in R *Knowledge*

MGI239-CO4: Apply R for Data Analysis and Visualization *Application*



MGI239-CO5: Apply the key terminology, concepts, tools and techniques of R in solving the domain specific problems. *Application*

20. **Course Name:** Essential Statistics for Business Analytics

Course Code: MGI240

MGI240-CO1: Describe the applications of statistics in different fields, types of variables and data *Knowledge*

MGI240-CO2: Summarize the data using tables, diagrams, and graphs *Comprehension*

MGI240-CO3: Demonstrate sampling methods and approaches to hypothesis testing *Application*

MGI240-CO4: Apply the concepts of Central Tendency and Dispersion in business decision *Application*

MGI240-CO5: Employ the tools of Correlation and Regression analysis in business decision *Application*

21. **Course Name:** Marketing Analytics

Course Code: MGI241

MGI241-CO1: Describe the basics of marketing analytics for decision making *Knowledge*

MGI241-CO2: Explain product positioning and its importance *Comprehension*

MGI241-CO3: Discuss price elasticity modeling *Comprehension*

MGI241-CO4: Illustrate market mix modeling and the variables involved *Application*

MGI241-CO5: Apply analytics in the customer journey process *Application*

22. **Course Name:** Consumer Behavior & Market Research

Course Code: MGT138

MGT138-CO1: Identify the behavior of consumer before, during and after purchase *Knowledge*

MGT138-CO2: List various internal and external factors that influence consumer behavior *Knowledge*

MGT138-CO3: Describe the growing significance of consumer behavior in various areas of marketing *Knowledge*

MGT138-CO4: Explain the decision making process of consumers and the various models of consumer behavior *Comprehension*

MGT138-CO5: Demonstrate Market research with consumer behavior to gain managerial insights *Application*

23. **Course Name:** Internet and Related Technologies

Course Code: MGI236



MGI236-CO1: Describe the basics of IoT *Knowledge*

MGI236-CO2: Discuss the state of the Architecture of an IoT *Comprehension*

MGI236-CO3: Identify the design methodology and hardware platforms involved in IoT *Comprehension*

MGI236-CO4: Classify the data and analyze the data *Comprehension*

MGI236-CO5: Illustrate the uses of IOT Applications in Industrial & real-world *Application*

24. **Course Name:** Social and Web Analytics

Course Code: MGI237

MGI237-CO1: Describe Social media analytics and web analytics. *Knowledge*

MGI237-CO2: Discuss the fundamentals of social media analytics *Comprehension*

MGI237-CO3: Appraise the importance of web analytics and their potential impact *Analysis*

MGI237-CO4: Apply Academic knowledge, Intellectual skills, subject practical skills and Transferable skills. *Application*

MGI237-CO5: Relate the application of social media analytics and web analytics in real time. *Application*

25. **Course Name:** Web Design and Development

Course Code: MGI238

MGI238-CO1: Define the principles of web designing and hosting *Knowledge*

MGI238-CO2: Identify the elements / components of a website *Knowledge*

MGI238-CO3: Discuss different technologies for website designing and development *Comprehension*

MGI238-CO4: Summarize the emerging technologies and Contemporary issues in Cyber law in relation to

web hosting *Comprehension*

MGI238-CO5: Apply content management system for creation of a website using WordPress. *Application*

26. **Course Name:** Quality Management

Course Code: MGI233

MGI233-CO1: Describe the concept of quality and its importance for an Organization *Knowledge*

MGI233-CO2: Classify various reasons pertaining to cost of quality *Comprehension*

MGI233-CO3: Explain quality management tools *Comprehension*

MGI233-CO4: Summarize the importance of teamwork in Quality Management *Comprehension*

MGI233-CO5: Discuss recent trends in Quality Management System *Comprehension*



27. Course Name: E-Business Application

Course Code: MGI235

MGI235-CO1: Describe the fundamentals of E – Business *Knowledge*

MGI235-CO2: Discuss the various E – Business models *Comprehension*

MGI235-CO3: Identify how to manage E – Business *Comprehension*

MGI235-CO4: Summarize the formulation and evaluation of E – Business strategy *Comprehension*

MGI235-CO5: Explain the challenges and opportunities in E –Business *Comprehension*

28. Course Name: Financial Information Systems

Course Code: MGI230

MGI230-CO1: Outline the difference between Data & Information *Knowledge*

MGI230-CO2: Describe the functions of various information system *Comprehension*

MGI230-CO3: Describe the applicability of financial information system *Comprehension*

MGI230-CO4: Explain the different methods available to manage Information systems *Comprehension*

MGI230-CO5: Explain the Audit standards and security system for IT *Comprehension*

29. Course Name: Fundamentals of Business Analytics

Course Code: BAS101

BAS101-CO1: Describe the role of business analytics in managerial decision making *Knowledge*

BAS101-CO2: Summarize methods to prepare data for business analytics *Comprehension*

BAS101-CO3: Apply analytical methods used in business practices *Comprehension*

BAS101-CO4: Interpret the results extracted from predictive analytics *Application*

30. Course Name: Application of Business Analytics-I

Course Code: BAS103

BAS103-CO1: Describe the Fundamentals of Business Analytics *Knowledge*

BAS103-CO2: Compute various data visualization methods used in business practices *Application*

BAS103-CO3: Predict business trends based on predictive analytics used in business decision making *Application*

BAS103-CO4: Prescribe the business stakeholders to optimize and achieve business objectives *Application*



BAS103-CO5: Construct the methodology for data processing, results generation, interpretation and presentation *Application*

31. **Course Name:** Marketing Analytics

Course Code: BAS105

BAS105-CO1: Outline the importance of analytics in marketing *Knowledge*

BAS105-CO2: Describe the importance of product positioning *Knowledge*

BAS105-CO3: Explain the price elasticity modeling *Comprehension*

BAS105-CO4: Illustrate the customer journey mapping process *Application*

32. **Course Name:** Security Analysis and Portfolio Management

Course Code: BFI101

BFI101-CO1: Describe the various investment opportunities and risk factors attached to those investments *Knowledge*

BFI101-CO2: Identify various Investment avenues with limited sources of Funds *Knowledge*

BFI101-CO3: Discuss in Brief about Technical and Fundamental Analysis *Comprehension*

BFI101-CO4: Classify the Bonds based on their risks and returns *Comprehension*

33. **Course Name:** Global Business Finance

Course Code: BFI102

BFI102-CO1: Outline the structure of Global Business Financial System *Knowledge*

BFI102-CO2: Explain the role of Global Financial markets in economic development *Comprehension*

BFI102-CO3: Paraphrase the roles and responsibilities of International financial institutions *Comprehension*

BFI102-CO4: Summarize the intricacies involved in availing international loans and grants and discuss the recent trends in global finance with suitable references *Comprehension*

34. **Course Name:** Strategic Financial Management

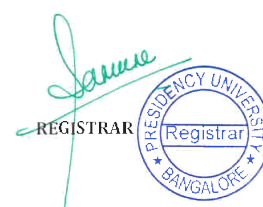
Course Code: BFI103

BFI103-CO1: Define Strategic Financial Management *Knowledge*

BFI103-CO2: Apply the Risk and return analysis to a business project *Application*

BFI103-CO3: Compute the Terminal cash flow *Application*

BFI103-CO4: Employ the Capital Budgeting decisions under uncertain and risky situations *Application*



35. Course Name: Industrial Relations Law

Course Code: BHR101

BHR101-CO1: Recognize the importance of Industrial Relation *Knowledge*

BHR101-CO2: Explain the provisions of payment of wage and bonus *Comprehension*

BHR101-CO3: Discuss the social security aspect of Industrial workers *Comprehension*

BHR101-CO4: Identify the provisions that are a part of Industrial Relations code *Comprehension*

36. Course Name: International Human Resource Management

Course Code: BHR103

BHR103-CO1: Distinguish between domestic HRM and IHRM *Knowledge*

BHR103-CO2: Analyze the cross-cultural impact on IHRM *Comprehension*

BHR103-CO3: Summarize the approaches to Staffing in International Operations *Comprehension*

BHR103-CO4: Outline the Recruiting and Selecting aspects of Staff for International Assignments *Comprehension*

37. Course Name: Human Resources Development

Course Code: BHR104

BHR104-CO1: Identify the need of Human Resource Development in fulfilling organizational objectives *Knowledge*

BHR104-CO2: Analyze important methods of employee training at various levels *Analysis*

BHR104-CO3: Examine the effectiveness of investment in employee training and development *Analysis*

38. Course Name: Consumer Behaviour

Course Code: BMK101

BMK101-CO1: Describe the nature of consumer behavior *Knowledge*

BMK101-CO2: Discuss the importance of cognitive mechanism of consumer behavior at individual level *Comprehension*

BMK101-CO3: Discuss the wide range of social and cultural factors influences the consumer behavior *Comprehension*

BMK101-CO4: Summarize the consumer decision making process *Comprehension*

39. Course Name: Rural Marketing

Course Code: BMK102



BMK102-CO1: Outline rural and agricultural market in India *Knowledge*

BMK102-CO2: Recognize the consumer behavior in the context of rural environment
Comprehension

BMK102-CO3: Identify various marketing mix relevant to rural India *Comprehension*

BMK102-CO4: Illustrate the growth of rural consumption in India *Application*

40. **Course Name:** Retail Management

Course Code: BMK103

BMK103-CO1: Summarize the theories of retailing *Comprehension*

BMK103-CO2: Identify the types of retail store location *Comprehension*

BMK103-CO3: Review space allocation in retailing *Comprehension*

BMK103-CO4: Illustrate the types of store layout *Comprehension*

BMK103-CO5: Discuss the advantages and disadvantages of e-tailing *Comprehension*

41. **Course Name:** Purchasing and Inventory Management

Course Code: BSC102

BSC102-CO1: Define a purchasing management process in an organization *Knowledge*

BSC102-CO2: Explain the risk and opportunities in supply chain *Comprehension*

BSC102-CO3: Illustrate the inventory stock level in relation to demand analysis *Application*

BSC102-CO4: Identify the warehouse requirements from inventory management
Comprehension

42. **Course Name:** Supply Chain Modelling and Design

Course Code: BSC104

BSC104-CO1: Explain the process of Supply chain modeling *Knowledge*

BSC104-CO2: Discuss the application of supply chain software for automating the supply chain

process in an organization *Comprehension*

BSC104-CO3: Sketch the various models involved in inventory management and risk pooling that

automate the supply chain *Application*

BSC104-CO4: Describe the process of Supply Chain production planning for an organization
Comprehension

43. **Course Name:** Technology and Operations Management

Course Code: BSC105



BSC105-CO1: Define the concept of technology and project management in SCM *Knowledge*

BSC105-CO2: Explain how the planning and control are adopted during manufacturing process in

SCM *Comprehension*

BSC105-CO3: Identify how operation strategy, demand forecasting is performed during facilities

planning phase *Comprehension*

BSC105-CO4: Relate the importance of Production Planning and Control *Knowledge*

BSC105-CO5: Explain how to enhance operational and technological management in an organization. *Comprehension*

44. Course Name: Business Law

Course Code: LAW9007

LAW9007-CO1: Discuss the essentials of a valid contract *Comprehension*

LAW9007-CO2: Distinguish between Contract of Indemnity and Guarantee *Comprehension*

LAW9007-CO3: Explain the relevance of Negotiable Instruments *Comprehension*

LAW9007-CO4: Distinguish between sale and agreement to sell *Comprehension*

LAW9007-CO5: Discuss the importance of anticompetitive agreements *Comprehension*

45. Course Name: Operations Management

Course Code: MGT152

MGT152-CO1: Explain the strategic role of operations management in creating and enhancing a firm's competitive advantages *Comprehension*

MGT152-CO2: Discuss key concepts and issues of OM in both manufacturing and service organizations *Comprehension*

MGT152-CO3: Distinguish the interdependence of the operations function with the other key functional areas of a firm *Comprehension*

MGT152-CO4: Explain the major functions of production and operations in a manufacturing organization *Comprehension*

MGT152-CO5: Explain the Quality Certifications for production and operations in an manufacturing organizations *Comprehension*

46. Course Name: Banking and Insurance

Course Code: MGT161

MGT161-CO1: Describe the Commercial Banking and Insurance Systems in India *Comprehension*

MGT161-CO2: Identify the Emerging Trends in the Banking Sector *Knowledge*

MGT161-CO3: Indicate different forms of risk in Banking Sector *Knowledge*



MGT161-CO4: Summarize the process of Insurance *Comprehension*

MGT161-CO5: Describe NPA and its management *Comprehension*

47. **Course Name:** Strategic Management

Course Code: MGT162

MGT162-CO1: Describe the fundamentals of business strategy *Comprehension*

MGT162-CO2: Review the impact of environmental factors on strategic decisions *Comprehension*

MGT162-CO3: Discuss different levels of strategy for the organization *Application*

MGT162-CO4: Discover the relationship between organization structure and strategy implementation *Application*

MGT162-CO5: Choose suitable control measures for effective strategy implementation *Application*

48. **Course Name:** Crypto Currency and Its Uses

Course Code: MGI250

MGI250-CO1: Describe how to navigate investments in crypto currency *Knowledge*

MGI250-CO2: Discuss new payments stacks and digital wallets *Comprehension*

MGI250-CO3: Summarize frameworks for understanding both Crypto currency and Block chain *Comprehension*

MGI250-CO4: Explain analyze the foundations of digital signatures and blockchain technology in cryptocurrency *Comprehension*

MGI250-CO5: List Payments, digital wallets, RTGS, new payment stacks and emerging technology in payments *Comprehension*

49. **Course Name:** Electronic Payment Systems

Course Code: MGI251

MGI251-CO1: Describe the role of central banks and the mechanism of money transfer *Knowledge*

MGI251-CO2: Discuss the role of cheque clearing and different settlement process *Comprehension*

MGI251-CO3: Illustrate the usage of mobile payments and digital wallets *Application*

MGI251-CO4: Demonstrate the application of micropayment systems *Application*

MGI251-CO5: Demonstrate the importance of E Payment Securities *Application*

50. **Course Name:** Customer Relationship Management

Course Code: MGT153



MGT153-CO1: Discuss the fundamental concepts of business analytics being used in the business practices *Comprehension*

MGT153-CO2: Summarize various Customer value related processes *Comprehension*

MGT153-CO3: Explain the Customer Management Processes *Comprehension*

MGT153-CO4: Demonstrate various CRM metrics *Application*

MGT153-CO5: Demonstrate the role of technology in CRM processes *Application*

51. Course Name: Project Management

Course Code: MGT260

MGT260-CO1: Define each phase of the lifecycle of a project *Knowledge*

MGT260-CO2: Discuss the risks involved and resources needed for each project stages *Comprehension*

MGT260-CO3: Explain the requirements needed to successfully complete projects *Comprehension*

MGT260-CO4: Illustrate the project scopes and estimate the project costs by considering factors

Of cost, variances, and profits *Application*

MGT260-CO5: Sketch a project using a Gantt chart *Application*

52. Course Name: Machine Learning

Course Code: MGI256

MGI256-CO1: Describe the fundamentals of Machine Learning *Knowledge*

MGI256-CO2: Discuss the Python Ecosystem *Comprehension*

MGI256-CO3: Explain the Visualization of data in Machine Learning *Comprehension*

MGI256-CO4: Review the data preparation in Machine Learning *Comprehension*

MGI256-CO5: Illustrate the Machine Learning Algorithms *Application*

53. Course Name: Predictive Analytics

Course Code: MGI257

MGI257-CO1: Define the nature of analytics and its applications *Knowledge*

MGI257-CO2: Discuss the concepts of predictive analytics and data mining *Comprehension*

MGI257-CO3: Compute the analytical tools in business scenarios to achieve competitive advantage *Application*

MGI257-CO4: Relate the real-world insights in decision trees and time series analysis methods in dynamic business environment *Application*

MGI257-CO5: Outline the importance of big data in predictive analytics *Comprehension*



54. Course Name: Service Management

Course Code: MGT144

MGT144-CO1: Describe the factors responsible for growth of service sector in India.
Comprehension

MGT144-CO2: Identify gaps in customer expectations of services *Comprehension*

MGT144-CO3: Examine about 7Ps in Service Marketing *Analysis*

MGT144-CO4: Demonstrate Gap analysis of an organization's service quality performance against the service quality needs of its customers *Application*

MGT144-CO5: Appraise the service marketing strategies applied by various service industries in India *Evaluation*

55. Course Name: Air Traffic Control

Course Code: AVM109

AVM109-CO1: Describe the elements of ATC systems in airport *Knowledge*

AVM109-CO2: Explain how ATC is structured, ATC procedures and control tower operations and air traffic management *Comprehension*

AVM109-CO3: Discuss the various ATC communications procedures *Comprehension*

AVM109-CO4: Explain how control tower operations involved in ATC *Comprehension*

AVM109-CO5: Identify the component of NexGen for the future Air Traffic Management *Comprehension*

56. Course Name: Airport Management

Course Code: AVM110

AVM110-CO1: Explain the Airport Strategic Planning and its various types *Comprehension*

AVM110-CO2: Identify the financial methods and its best practices *Knowledge*

AVM110-CO3: Review the Airline Pricing process and Revenue Management *Comprehension*

AVM110-CO4: Interpret the Airline Planning Process *Application*

AVM110-CO5: Apply Airline Schedule Optimization techniques *Application*

57. Course Name: Search Engine Optimization

Course Code: MGI255

MGI255-CO1: Outline the basic the concepts of SEO *Knowledge*

MGI255-CO2: Discuss the content necessary for On page SEO *Comprehension*

MGI255-CO3: Illustrate off page SEO using optimization *Application*

MGI255-CO4: Demonstrate Technical SEO *Application*

MGI255-CO5: Analyze the Report of SEO to measure the performance *Analysis*



58. Course Name: Social Media Marketing

Course Code: MGT254

MGT254-CO1: Define the key concepts in Social Media Marketing *Knowledge*

MGT254-CO2: Discuss a various social media platforms and content designing Marketing strategies *Comprehension*

MGT254-CO3: Explain the best practices used in Social Marketing using various tools *Comprehension*

MGT254-CO4: Apply social media marketing for personal branding and corporate objectives *Application*

MGT254-CO5: Illustrate the metrics used in e marketing and mobile marketing *Application*

59. Course Name: Legal Aspects of E Commerce

Course Code: LAW9008

LAW9008-CO1: Describe ley concepts of Electronic Commerce *Knowledge*

LAW9008-CO2: Explain technological advancement in the area of E Commerce *Comprehension*

LAW9008-CO3: Illustrate the mechanism of E payment *Application*

LAW9008-CO4: Relate the functioning of ERP with E Commerce and SCM *Application*

60. Course Name: Supply Chain Risk Management

Course Code: MGI252

MGI252-CO1: Define how the risk environment impacts supply chain *Knolwedge*

MGI252-CO2: Explain the risk and opportunities in supply chain *Comprehension*

MGI252-CO3: Discuss risk response options available for implementation and activation *Comprehension*

MGI252-CO4: Illustrate risk mitigation models using tools and techniques *Application*

MGI252-CO5: Discuss the implication of Big Data tools for supply chain risk management *Comprehension*

61. Course Name: Banking and Insurance

Course Code: BFS101

BFS101-CO1: Describe the importance of Insurance *Knowledge*

BFS101-CO2: Identify the meaning of Insurance sector *Knowledge*

BFS101-CO3: Summarize the process of Insurance *Comprehension*

BFS101-CO4: Elaborate the distribution channel of Insurance *Comprehension*



62. Course Name: Investment Management

Course Code: BFS102

BFS102-CO1: Explain about basics of investment and its goals. *Comprehension*

BFS102-CO2: Classify various financial instruments for investment *Comprehension*

BFS102-CO3: Discuss the functions of the stock exchange and their indicators *Comprehension*

BFS102-CO4: Estimate the Risk and Return of securities *Analysis*

BFS102-CO5: Construct a portfolio and estimate their performance. *Application*

63. Course Name: Financial Reporting and Analysis

Course Code: BFS104

BFS104-CO1: Analyze financial statements using knowledge of the underlying accounting principles, and financial analysis techniques *Analysis*

BFS104-CO2: Demonstrate concisely presented financial results in written format *Application*

BFS104-CO3: Apply the principles of financial reporting and how they affect analysis of financial performance and valuation of the company *Application*

BFS104-CO4: Demonstrate the ability to prepare prospective financial information in relation to equity and revenue recognition *Application*

BFS104-CO5: Prepare the financial results and position of a company relative to its industry and peer group in oral and written format *Application*

64. Course Name: Principles and Practices in Banking

Course Code: BFS106

BFS106-CO1: Identify the scope of Indian Banking System *Comprehension*

BFS106-CO2: Review the importance of banker-customer relationship *Comprehension*

BFS106-CO3: Summarize the relevance of various bank products *Comprehension*

BFS106-CO4: Identify banking innovations *Comprehension*

BFS106-CO5: Summarize the latest technology in Banking *Comprehension*

65. Course Name: Data Science Using R

Course Code: BAH105

BAH105-CO1: Describe the basics of R being used in the business analytics *Knowledge*

BAH105-CO2: Classify different types of data structures in R *Comprehension*

BAH105-CO3: Identify different types of packages and libraries used in R *Knowledge*

BAH105-CO4: Apply R for Data Analysis and Visualization. *Application*

BAH105-CO5: Apply the key terminology, concepts, tools and techniques of R in solving the domain specific problems. *Application*



66. Course Name: International Accounting and Finance

Course Code: MAH105

MAH105-CO1: Evaluate the line items of financial statements and prepare financial statements according to US GAAP and IFRS. *Analysis*

MAH105-CO2: Apply the accounting standards in measuring assets and evaluate its effect on income statements *Application*

MAH105-CO3: Apply the accounting standards in measuring liabilities and evaluate its effect on income statements. *Application*

MAH105-CO4: Apply how equity transactions are recorded and evaluate its effect on income statements *Application*

MAH105-CO5: Apply the revenue recognition principles in a company and evaluate its effect on income statements. *Application*

67. Course Name: Financial Accounting

Course Code: BBA2001

BBA2001-CO1: Describe the basic principles of accounting *Knowledge*

BBA2001-CO2: Explain the process of preparation of books of accounts *Comprehension*

BBA2001-CO3: Discuss the different methods of recording transactions in the subsidiary books *Comprehension*

BBA2001-CO4: Compute the cash price under the Hire Purchase System *Application*

BBA2001-CO5: Prepare the final accounts of a sole trading concern *Application*

68. Course Name: Financial Planning and Performance

Course Code: MAH2001

MAH2001-CO1: Describe strategic planning and budgeting and recall the models of strategic planning with the process *Knowledge*

MAH2001-CO2: Classify forecasting techniques and demonstrate the budget *Comprehension*

MAH2001-CO3: Explain of budget to prepare an annual profit plan *Comprehension*

MAH2001-CO4: Illustrate performance by using flexible budgets and compare actual results to planned results *Application*

MAH2001-CO5: Explain the importance and use of standard cost systems *Comprehension*

69. Course Name: Business Analytics Fundamentals

Course Code: BCH1001

BCH1001-CO1: Describe the usage of data for Business decision making *Knowledge*

BCH1001-CO2: Discuss the usage of excel in data analysis *Comprehension*



BCH1001-CO3: Explain the steps involved in combining the data with power query
Comprehension

BCH1001-CO4: Illustrate the data computations through excel *Application*

BCH1001-CO5: Demonstrate data projection through pivot tables
Application

70. **Course Name:** Fundamentals of Computers

Course Code: BCA1001

BCA1001-CO1: Describe basic components of computer *Knowledge*

BCA1001-CO2: Discuss basic concepts of memory and processor *Comprehension*

BCA1001-CO3: Explain basics of system software and application software *Comprehension*

71. **Course Name:** Basic Mathematics for Economics

Course Code: BSE1001

BSE1001-CO1: Describe number theoretical properties to solve real world problems
Knowledge

BSE1001-CO2: Explain the role of numbers in other branches of Mathematics, in particular Combinatory, Set Theory and Algebra *Comprehension*

BSE1001-CO3: Discuss various factors in connection with Interest and discounts
Comprehension

BSE1001-CO4: Discuss the derivative of a function *Comprehension*

BSE1001-CO5: Illustrate different properties of Matrices *Application*

72. **Course Name:** Introduction to Statistics

Course Code: BSE1002

BSE1002-CO1: Arrange statistical data graphically using frequency distributions and cumulative frequency distributions. *Knowledge*

BSE1002-CO2: Summarize statistical data using measures of central tendency, dispersion and location. *Comprehension*

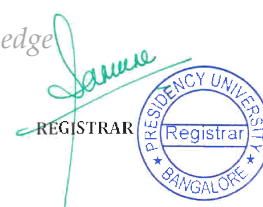
BSE1002-CO3: Apply basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events *Application*

73. **Course Name:** Applied Micro Economics

Course Code: BSE1004

BSE1004-CO1: Identify the problems in the area of Micro Economics *Knowledge*

BSE1004-CO2: Outline the basic concept of Economics in business world *Knowledge*



BSE1004-CO3: Summarize different components of cost concepts and to calculate break-even point of a firm *Comprehension*

BSE1004-CO4: Review latest sector wise trends and new initiatives of the economy *Comprehension*

74. Course Name: Business Information Systems

Course Code: BBA2002

BBA2002-CO1: Describe the basics concepts and working of information technology *Knowledge*

BBA2002-CO2: Explain the role of information systems support that enables the business functions *Comprehension*

BBA2002-CO3: Discuss the concepts of BPR and E-enterprise *Comprehension*

BBA2002-CO4: Outline how organizations effectively use information systems to achieve competitive advantage *Comprehension*

BBA2002-CO5: Discuss the potential values emerging and disruptive technologies that brings organization success *Comprehension*

75. Course Name: Management and Behavioral Practices

Course Code: BBA2008

BBA2008-CO1: Describe the fundamentals of management *Knowledge*

BBA2008-CO2: Discuss the principles of planning and decision-making *Comprehension*

BBA2008-CO3: Explain the organizing process *Comprehension*

BBA2008-CO4: Identify the principles of Controlling and Directing *Comprehension*

BBA2008-CO5: Summarize behavior of organization in individuals and groups *Comprehension*

76. Course Name: Genesis and Overview of Aviation

Course Code: BAV3001

BAV3001-CO1: Outline the evolution of Aviation Industry *Knowledge*

BAV3001-CO2: Explain working of an aircraft *Comprehension*

BAV3001-CO3: Recognize how aviation industry effects environment *Comprehension*

BAV3001-CO4: Discuss functions of airport at different operational levels *Comprehension*

77. Course Name: Airport Operations-Basics

Course Code: BAV3002

BAV3002-CO1: List the components of airport and its organization structure *Knowledge*

BAV3002-CO2: Interpret the process of Ground Handling *Application*

BAV3002-CO3: Explain the current and emerging trends in baggage handling *Comprehension*



BAV3002-CO4: Illustrate the different types of passenger handling process *Application*

78. Course Name: Marketing Management

Course Code: BBA2005

BBA2005-CO1: Describe the basic concept of Marketing and its application in business *Knowledge*

BBA2005-CO2: Infer the various internal and external factors which affects Marketing of a product in an organization *Comprehension*

BBA2005-CO3: Explain marketing mix to meet growing needs of the customer *Comprehension*

BBA2005-CO4: Identify the basis of segmentation, targeting and positioning for products and services *Comprehension*

BBA2005-CO5: Summarize the factors influencing consumer behavior and its impact on consumer decision making process *Comprehension*

79. Course Name: Innovation and Creativity in Business

Course Code: BBA2007

BBA2007-CO1: Outline Creativity Techniques in Business *Knowledge*

BBA2007-CO2: Recognize the role of leaders in enhancing creativity *Knowledge*

BBA2007-CO3: Discuss types of innovation and its application in productprocess and service *Comprehension*

BBA2007-CO4: Discuss the sources of new knowledge and ideas *Comprehension*

BBA2007-CO5: Summarize the factors influencing commercialization of innovative ideas *Comprehension*

80. Course Name: Leadership Management

Course Code: BBA2016

BBA2016-CO1: Distinguish the concept of leadership from the concept of management and form well- founded opinions on different theoretical approaches on leadership *Knowledge*

BBA2016-CO2: Describe Situational leadership style and its significance in the business *Comprehension*

BBA2016-CO3: Identify organizational problems related to leadership issues and to evaluate suitable

Solutions *Comprehension*

BBA2016-CO4: Explain the decision-making process and change management *Comprehension*

BBA2016-CO5: Assess the skills necessary to exert power and influence in a non-authoritative leadership role; and evaluate the qualities necessary to effectively manage or lead in a team/group environment *Application*



81. Course Name: Financial Management

Course Code: BBA2001

BBA2001-CO1: Outline the concept and nature of Finance, Financial Management and Financial Manager *Knowledge*

BBA2001-CO2: Discuss the Theory of Time value of Money *Comprehension*

BBA2001-CO3: Explain the Investment, Financing Decisions and Dividend decision of an Organization *Comprehension*

BBA2001-CO4: Recognize various working capital management models *Comprehension*

BBA2001-CO5: Summarize the policies for managing receivables *Comprehension*

82. Course Name: Managerial Economics

Course Code: BSE2021

BSE2021-CO1: Outline Creativity Techniques in Business *Knowledge*

BSE2021-CO2: Identify the determinants of demand and supply for various goods and recognize the exceptions *Knowledge*

BSE2021-CO3: Explain the Diminishing Marginal Utility and Consumer's equilibrium *Comprehension*

BSE2021-CO4: Summarize the various Production functions and cost concepts relevant to decision making *Comprehension*

BSE2021-CO5: Recognize price determination in different market structures *Knowledge*

83. Course Name: Corporate Law

Course Code: LAW9006

LAW9006-CO1: Identify the contents of main documents of a Corporate *Comprehension*

LAW9006-CO2: Summarize the duties and procedure of removal of a Director *Comprehension*

LAW9006-CO3: Discuss the prevention of oppression and mismanagement *Comprehension*

LAW9006-CO4: Summarize the modes of winding up of a company *Comprehension*

LAW9006-CO5: Discuss Corporate governance models *Comprehension*

84. Course Name: Consumer Behavior & Market Research

Course Code: BBA2015

BBA2015-CO1: Identify the behavior of consumer before, during and after purchase *Knowledge*

BBA2015-CO2: List various internal and external factors that influence consumer behavior *Knowledge*

BBA2015-CO3: Describe the growing significance of consumer behavior in various areas of marketing *Knowledge*



BBA2015-CO4: Explain the decision making process of consumers and the various models of consumer behavior *Comprehension*

BBA2015-CO5: Demonstrate Market research with consumer behavior to gain managerial insights *Application*

85. **Course Name:** Internet and Related Technologies

Course Code: BBA3056

BBA3056-CO1: Describe the basics of IoT *Knowledge*

BBA3056-CO2: Discuss the state of the Architecture of an IoT *Comprehension*

BBA3056-CO3: Identify the design methodology and hardware platforms involved in IoT *Comprehension*

BBA3056-CO4: Classify the data and analyze the data *Comprehension*

BBA3056-CO5: Illustrate the uses of IOT Applications in Industrial & real-world *Application*

86. **Course Name:** Social and Web Analytics

Course Code: BBA3057

BBA3057-CO1: Describe Social media analytics and web analytics. *Knowledge*

BBA3057-CO2: Discuss the fundamentals of social media analytics *Comprehension*

BBA3057-CO3: Appraise the importance of web analytics and their potential impact *Analysis*

BBA3057-CO4: Apply Academic knowledge, Intellectual skills, subject practical skills and Transferable skills. *Application*

BBA3057-CO5: Relate the application of social media analytics and web analytics in real time. *Application*

87. **Course Name:** Application of Business Analytics

Course Code: BBB3003

BBB3003-CO1: Illustrate data management to execute descriptive analytics *Application*

BBB3003-CO2: Compute various data visualization methods used in business practices *Application*

BBB3003-CO3: Predict business trends based on predictive analytics used in business decision making *Application*

BBB3003-CO4: Illustrate the business stakeholders to optimize and achieve business objectives using data *Application*

BBB3003-CO5: Construct the methodology for data processing, results generation, interpretation and presentation *Application*

88. **Course Name:** Marketing Analytics

Course Code: BBA3029



BBA3029-CO1: Describe the basics of marketing analytics for decision making *Knowledge*

BBA3029-CO2: Explain product positioning and its importance *Comprehension*

BBA3029-CO3: Discuss price elasticity modeling *Comprehension*

BBA3029-CO4: Illustrate market mix modeling and the variables involved *Application*

BBA3029-CO5: Apply analytics in the customer journey process *Application*

89. **Course Name:** Essential Statistics for Business Analytics

Course Code: BBB3002

BBB3002-CO1: Describe the applications of statistics in different fields, types of variables and data *Knowledge*

BBB3002-CO2: Summarize the data using tables, diagrams, and graphs *Comprehension*

BBB3002-CO3: Demonstrate sampling methods and approaches to hypothesis testing *Application*

BBB3002-CO4: Apply the concepts of Central Tendency and Dispersion in business decision *Application*

BBB3002-CO5: Employ the tools of Correlation and Regression analysis in business decision *Application*

90. **Course Name:** Airport and Aircraft Emergencies and Safety Management

Course Code: BAV3005

BAV3005-CO1: State the components of safety management systems *Knowledge*

BAV3005-CO2: Explain the procedures followed by airlines in different emergency scenario *Comprehension*

BAV3005-CO3: Outline the importance of documentation in aviation industry *Knowledge*

BAV3005-CO4: Illustrate the importance of reducing human errors for the safety of airport/aircraft *Application*

BAV3005-CO5: Interpret the hazards caused by the different dangerous goods as classified by ICAO *Application*

BAV3005-CO6: Explain the components of airline safety systems *Comprehension*

91. **Course Name:** Air Cargo and Logistics

Course Code: BAV3006

BAV3006-CO1: Discuss the types of cargo, and how freight is forwarded *Comprehension*

BAV3006-CO2: Apply the process of cool chain business and logistics management *Application*

BAV3006-CO3: Define the various security threats and risks in cargo management *Knowledge*

BAV3006-CO4: Illustrate the inventory planning and management *Application*



BAV3006-CO5: Explain the material handling and warehousing process *Comprehension*

92. Course Name: Web Design and Development

Course Code: BBA3058

BBA3058-CO1: Define the principles of web designing and hosting *Knowledge*

BBA3058-CO2: Identify the elements / components of a website *Knowledge*

BBA3058-CO3: Discuss different technologies for website designing and development *Comprehension*

BBA3058-CO4: Summarize the emerging technologies and Contemporary issues in Cyber law in relation to

web hosting *Comprehension*

BBA3058-CO5: Apply content management system for creation of a website using WordPress. *Application*

93. Course Name: Quality Management

Course Code: BBA3045

BBA3045-CO1: Describe the concept of quality and its importance for an Organization *Knowledge*

BBA3045-CO2: Classify various reasons pertaining to cost of quality *Comprehension*

BBA3045-CO3: Explain quality management tools *Comprehension*

BBA3045-CO4: Summarize the importance of teamwork in Quality Management *Comprehension*

BBA3045-CO5: Discuss recent trends in Quality Management System *Comprehension*

94. Course Name: E-Business Application

Course Code: BBA3046

BBA3046-CO1: Describe the fundamentals of E - Business *Knowledge*

BBA3046-CO2: Discuss the various E - Business models *Comprehension*

BBA3046-CO3: Identify how to manage E - Business *Comprehension*

BBA3046-CO4: Summarize the formulation and evaluation of E - Business strategy *Comprehension*

BBA3046-CO5: Explain the challenges and opportunities in E -Business *Comprehension*

95. Course Name: Company Law

Course Code: LAW9005

LAW9005-CO1: Describe the formation of Joint stock company *Knowledge*

LAW9005-CO2: Explain the practices of share capital and debentures *Comprehension*



LAW9005-CO3: Discuss the activities of Managing personnel *Comprehension*
LAW9005-CO3: Explain the procedures meeting and resolutions *Comprehension*
LAW9005-CO4: Discuss the process of winding up a company *Comprehension*
LAW9005-CO5: Discuss the process of winding up a company *Comprehension*

96. Course Name: Application of Business Analytics

Course Code: BCH3001

BCH3001-CO1: Describe the basic concepts of python *Knowledge*
BCH3001-CO1: Describe the basic concepts of python *Knowledge*
BCH3001-CO2: Discuss the aspects of conditional logic, branching and iteration
Comprehension
BCH3001-CO3: Explain dependent libraries usage, basic graphing and statistical analysis
using graphs in Python *Comprehension*
BCH3001-CO4: Illustrate Understanding data modelling for regression *Application*
BCH3001-CO5: Demonstrate Decision Trees in Data handling and modelling *Application*

97. Course Name: Financial Reporting

Course Code: MAH2003

MAH2003-CO1: Discuss the line items of financial statements and prepare financial
statements according to US GAAP and IFRS *Comprehension*
MAH2003-CO2: Apply the accounting standards in measuring assets and evaluate its effect
on income statements. *Application*
MAH2003-CO3: Apply the accounting standards in measuring liabilities and evaluate its
effect on income statements *Application*
MAH2003-CO4: Apply how equity transactions are recorded and evaluate its effect on income
statements *Application*
MAH2003-CO5: Apply the revenue recognition principles in a company and evaluate its
effect on income statements *Application*

98. Course Name: Basic Econometrics

Course Code: BSE1009

BSE1009-CO1: Define the basic concepts of econometrics and techniques of linear regression
model *Knowledge*
BSE1009-CO2: Explain the assumptions underlying the classical linear regression model
CLRM and identify its violations *Comprehension*
BSE1009-CO3: Discuss statistics tests to check the robustness of econometric models
Comprehension
BSE1009-CO4: Employ the logit/probit regression results and make statistical inferences
Application



99. Course Name: Indian Economy

Course Code: BSE1013

BSE1013-CO1: Describe the basic characteristics of Indian economy *Knowledge*

BSE1013-CO2: Discuss the importance, causes and impact of population growth and its distribution, translate and relate them with economic development *Comprehension*

BSE1013-CO3: Illustrate different policies and role of agriculture, industry, and service sectors in Indian economy *Application*

BSE1013-CO4: Demonstrate the different five year plans of India *Application*

100. Course Name: Monetary Economics

Course Code: BSE1015

BSE1015-CO1: Describe the Demand and Supply of the money in the economy *Knowledge*

BSE1015-CO2: Determine the value of money through different Theoretical approaches *Comprehension*

BSE1015-CO3: Explain the effect of ROI in the determination of the supply of money in the economy *Comprehension*

BSE1015-CO4: Explain inflation theories and policies *Comprehension*

101. Course Name: Digital Economics

Course Code: BSE2003

BSE2003-CO1: Identify the arenas in digital economics *Knowledge*

BSE2003-CO2: Summarize about Digital Economy *Knowledge*

BSE2003-CO3: Synthesize different production models in digital economy *Comprehension*

BSE2003-CO4: Infer the types of digital markets *Comprehension*

102. Course Name: Fundamentals of Micro Economics

Course Code: BSE1007

BSE1007-CO1: Identify the problems in the area of Micro Economics *Knowledge*

BSE1007-CO2: Outline the basic concept of Economics in business world *Knowledge*

BSE1007-CO3: Summarize different components of cost concepts and to calculate break-even point of a firm *Comprehension*

BSE1007-CO4: Review latest sector wise trends and new initiatives of the economy *Comprehension*

103. Course Name: Business Information System

Course Code: BBA2002



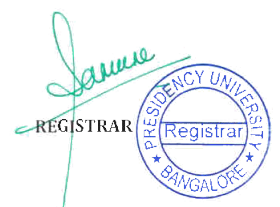
BBA2002-CO1: Describe the basics concepts and working of information technology
Knowledge

BBA2002-CO2: Explain the role of information systems support that enables the business functions
Comprehension

BBA2002-CO3: Discuss the concepts of BPR and E-enterprise
Comprehension

BBA2002-CO4: Outline how organizations effectively use information systems to achieve competitive advantage
Comprehension

BBA2002-CO5: Discuss the potential values emerging and disruptive technologies that brings organization success
Comprehension



School of Management-PG

1. Course Name: Applied Business Analytics

Course Code: MBA3016

MBA3016-CO1: Identify the various data analysis tools and techniques for business problems
Comprehension

MBA3016-CO2: Explain the appropriate measuring variables for business decisions using Exploratory Data Analytics *Comprehension*

MBA3016-CO3: Apply right analytics processes to implement Business Analytics tools & techniques like regression and classification. *Application*

2. Course Name: Business Forecasting

Course Code: MBA3017

MBA3017-CO2: Discuss time series data decomposition, analysis by applying forecasting tools *Comprehension*

MBA3017-CO3: Illustrate real-time business situations using advanced forecasting methods
Application Application

MBA3017-CO4: Apply forecasting results with the domain expertise to improve employability *Application Application*

3. Course Name: Business Law

Course Code: MBA3001

MBA3001-CO1: State the legal formation of contractual relationships in business *Knowledge*

MBA3001-CO2: Infer the concept of contract of sale and about conditions and warranties given by the companies *Comprehension*

MBA3001-CO3: Interpret the procedure for the formation of company, it's functioning, managing and winding up *Application*

MBA3001-CO4: Explain consumer rights and the procedure for settlement of a dispute in a consumer forum *Analysis*

4. Course Name: Business Statistics

Course Code: MBA1007

MBA1007-CO1: Describe the data using descriptive statistics *Comprehension*

MBA1007-CO2: Solve business related problems involving probabilities *Application*

MBA1007-CO3: Solve business related problems using probability distributions *Application*

MBA1007-CO4: Test hypotheses using relevant testing procedures *Analysis*



5. Course Name: Business Communication

Course Code: ENG1006

ENG1006-CO1: 1Describe business communication process *Knowledge*

ENG1006-CO2: Demonstrate competence in verbal business communication *Application*

ENG1006-CO3: Practice formal written communication *Application*

ENG1006-CO4: Use standard formats and techniques of communication to gain credibility in business settings *Application*

6. Course Name: Consumer Behaviour and Practices

Course Code: MBA2022

MBA2022-CO1: Explain the importance and the inter-disciplinary nature of Consumer Behavior *Comprehension*

MBA2022-CO2: Apply the concepts of Motivation, Personality and Perception in consumer decision making *Application*

MBA2022-CO3: Apply the concepts of Learning and Attitude in consumer decision making *Application*

MBA2022-CO4: Analyze the effect of Sociological influences on Consumer Behavior *Application*

7. Course Name: Contemporary Issues in Business

Course Code: MBA3036

MBA3036-CO1: Explain contemporary practices in day to day businesses in India *Comprehension*

MBA3036-CO2: Analyze the possible impact of contemporary and pervasive issues upon the current and future context in which organisations are located *Analysis*

8. Course Name: Corporate Strategy

Course Code: MBA3022

MBA3022-CO1: Describe Corporate Strategy and the Vision and Mission Statement of an organization *Knowledge*

MBA3022-CO2: Identify various factors of competitive advantage *Comprehension*

MBA3022-CO3: Explain various generic competitive strategies *Comprehension*

MBA3022-CO4: Prepare a Balanced Scorecard for an organization of your choice *Application*

9. Course Name: Cost and Revenue Management

Course Code: MBA3031



- MBA3031-CO1:** Interpret various cost and prepare quotations *Application*
- MBA3031-CO2:** Compute the cost at different stages of production *Application*
- MBA3031-CO3:** Interpret Activity based costing for managerial decision making *Application*
- MBA3031-CO4:** Estimate sales and profit variances *Comprehension*

10. Course Name: Data Analysis using Spread Sheets

Course Code: MBA1012

- MBA1012-CO1:** Describe techniques of spreadsheet file creation and data entry *Knowledge*
- MBA1012-CO2:** Reproduce formatting and editing capabilities on the data *Knowledge*
- MBA1012-CO3:** Demonstrate basic calculations of data *Application*
- MBA1012-CO4:** Demonstrate basic visualizing, analyzing and organizing of data *Application*

11. Course Name: Data Mining and Business Intelligence

Course Code: MBA3019

- MBA3019-CO1:** Identify right business issues & data required to solve these *Knowledge*
- MBA3019-CO2:** Describe relevant aspects of business for management action *Comprehension*
- MBA3019-CO3:** Prepare impactful management reports and dashboards using Tableau and PowerBI. *Application*
- MBA3019-CO4:** Evaluate various business solutions using data and recommend action *Analysis*

12. Course Name: Data Story Telling

Course Code: MBA3047

- MBA3047-CO1:** Demonstrate basic user interface interactions *Knowledge*
- MBA3047-CO2:** Describe basic charts in tableau *Comprehension*
- MBA3047-CO3:** Construct advanced charts and dashboard *Application*
- MBA3047-CO4:** Apply right visualization charts and dashboards for relevant business problems *Application*

13. Course Name: Design Thinking for Business Innovation

Course Code: MBA2023

- MBA2023-CO1:** Understand the concepts of design thinking approaches *Knowledge*
- MBA2023-CO2:** Create physical prototypes / a visual representation of an idea *Application*
- MBA2023-CO3:** Apply critical thinking and design thinking in parallel to solve problems *Application*
- MBA2023-CO4:** Apply some design thinking concepts to their daily work *Application*



14. Course Name: Digital and Social Media Marketing

Course Code: MBA3011

MBA3011-CO1: Explain the functioning of a Search Engine and the importance of Search Engine Optimization *Comprehension*

MBA3011-CO2: Apply the concept of Search Engine Marketing in creating a digital Ad Campaign *Application*

MBA3011-CO3: Illustrate the use of Social Media in effective digital marketing campaign *Application*

MBA3011-CO4: Identify the opportunities of email and Mobile Marketing to leverage the power of mobile devices *Analysis*

15. Course Name: Digital Product Management

Course Code: MBA3033

MBA3033-CO1: Identify the various types of users and MVP* releases *Knowledge*

MBA3033-CO2: Prepare strategies for competitive scalable Digital Product *Application*

MBA3033-CO3: Analyze customer context, business context, innovation context consistentl *Analysis*

MBA3033-CO4: Employ a road map for building Digital Products *Application*

16. Course Name: Distribution and Channel Development

Course Code: MBA3045

MBA3045-CO1: Describe various concepts about Logistics and Distribution *Knowledge*

MBA3045-CO2: Explain integrated Logistics and Supply Chain *Comprehension*

MBA3045-CO3: Apply concepts related to customer service and Logistics *Application*

MBA3045-CO4: Analyze various issues related to Logistics and Channel Distribution *Analysis*

17. Course Name: E Commerce Business Models

Course Code: MBA4055

MBA4055-CO1: Understand the drivers and enablers of E-business Models environment *Knowledge*

MBA4055-CO2: Demonstrate on how ICT has changed norms *Comprehension*

MBA4055-CO3: Analyze various analytical and technological tools and techniques to assess opportunities in un-served or under-served networked economy markets *Analysis*

18. Course Name: Email Campaining and Affiliate Marketing

Course Code: MBA3028



MBA3028-CO1: To Explain how E-Mail Campaigning has been done in today's world.
Comprehension

MBA3028-CO2: To Prepare an effective E-Mail campaign through designing, text and images, tracking, and maximizing deliverability *Application*

MBA3028-CO3: To Illustrate the concepts of Affiliate Marketing for product promotion.
Application

MBA3028-CO4: To Select the affiliate marketing platform through free and paid tools.
Knowledge

19. **Course Name:** Environmental Sustainability and Value Creation

Course Code: MBA3048

MBA3048-CO1: Discuss important topics associated with Sustainability, Business and Policies for sustainable business *Knowledge*

MBA3048-CO2: Apply the environmental impact assessment on real-time problems
Comprehension

MBA3048-CO3: Estimate climate-based risk to the business sector and strategize adaptation and resilient measures *Comprehension*

MBA3048-CO4: Summarize the circular economy concept for eco-entrepreneurship
Application

20. **Course Name:** Accounting for Managers

Course Code: MBA2034

MBA2034-CO1: Describe the Accounting process, Accounting principles, accounting equation and depreciation *Knowledge*

MBA2034-CO2: Summarize the Corporate Financial Statements *Comprehension*

MBA2034-CO3: Interpret Financial Statements with the help of different accounting tools
Application

MBA2034-CO4: Prepare Cash Budget and Flexible *Application*

MBA2034-CO5: Apply Marginal costing techniques in managerial decision making
Application

21. **Course Name:** Financial Markets and Services

Course Code: MBA3006

MBA3006-CO1: Discuss current structure and regulations of the Indian financial services sector *Comprehension*

MBA3006-CO2: Discuss concept and mechanism of financial markets and services
Comprehension

MBA3006-CO3: Explain the financial services and specialized financial services and their role in financial market *Comprehension*



MBA3006-CO4: Demonstrate analytical skills to address relevant issues relating to specialized and other financial services industry *Application*

22. Course Name: Sales and Marketing management

Course Code: MBA2035

MBA2035-CO1: Explain the concepts of Marketing Management *Comprehension*

MBA2035-CO2: Analyze the role of Product and Price in Marketing *Analysis*

MBA2035-CO3: Analyze the role of Promotion and Place in Marketing Strategies *Analysis*

MBA2035-CO4: Discuss the nature and importance of Sales Management *Comprehension*

MBA2035-CO5: Demonstrate the personal selling process *Application*

23. Course Name: Digital Product Management

Course Code: MBA3033

MBA3033-CO1: Identify the various types of users and MVP* releases -Blooms Level-
Comprehension *Comprehension*

MBA3033-CO2: Prepare strategies for competitive scalable Digital Product- Blooms Level-
Application *Application*

MBA3033-CO3: Analyze customer context, business context, innovation context consistently
Application

MBA3033-CO4: Employ a road map for building Digital Products *Analysis*

24. Course Name: Game Theory in Business

Course Code: MBA3046

MBA3046-CO1: Identify different types of games *Knowledge*

MBA3046-CO2: Define basic theory of games *Knowledge*

MBA3046-CO3: Review the basic model of competitions *Comprehension*

MBA3046-CO4: Analyse entry games played between and incumbent and an entrant
Application

25. Course Name: Industrial Relations and Labor Laws

Course Code: MBA3008

MBA3008-CO1: Analyze areas of labor management problems in the organizations. *Analysis*

MBA3008-CO2: Review legal and illegal actions at works. *Comprehension*

MBA3008-CO3: Design suitable plan for industrial democracy. *Synthesis*

MBA3008-CO4: Illustrate legislative framework and business actions. *Application*



26. Course Name: Industry 4.0

Course Code: MBA3049

MBA3049-CO1: Understand the drivers and enablers of Industry 4. *Comprehension*

MBA3049-CO2: Demonstrate the knowledge on smart manufacturing, smart products and services, while making complex business decision *Application*

MBA3049-CO3: Recognise the opportunities, challenges brought about by Industry 4.0 and how organizations and individuals should prepare to reap the benefits *Comprehension*

MBA3049-CO4: Formulate the deep insights on how smartness is being harnessed from data and appreciate what needs to be done in order to overcome some of the challenges. *Application*

27. Course Name: Investment Management

Course Code: MBA3005

MBA3005-CO1: Demonstrate the ability of selecting appropriate investments based on Investor Objectives and Constraints *Application*

Objectives and Constraints Application

MBA3005-CO2: Interpret the performance of investments including portfolio's based on Risk and Return. *Application*

MBA3005-CO3: Analyze the value of Bonds and Equity using Intrinsic and Relative Valuation models *Application*

MBA3005-CO4: Comprehend Fundamental / Technical Analysis Reports and commonly used Investment Strategies in Bond and Equity Markets. *Comprehension*

Strategies in Bond and Equity Markets. Comprehension

28. Course Name: Organizational Behaviour

Course Code: MBA2036

MBA2036-CO1: 1Explain the importance and concepts of human behavior in the organizations. *Comprehension*

MBA2036-CO2: Demonstrate how and why people behave under different conditions in the organizations *Application*

MBA2036-CO3: Evaluate options for the logical and optimal solution to control human behavior at Works *Application*

MBA2036-CO4: Discover the components to maximize people's potential and performance in the organizations *Application*

MBA2036-CO5: Construct creative and innovative ideas that could positively shape the organizations *Application*

29. Course Name: Lean Supply Chain Management

Course Code: MBA4027



MBA4027-CO1: Explain the Concept of Lean Management in Manufacturing *Comprehension*

MBA4027-CO2: Applying the leans concept in Inventory and quality control *Application*

MBA4027-CO3: Applying the integrated SM to Lean system and analyze the performance *Analysis*

30. **Course Name:** Management Accounting

Course Code: MBA2025

MBA2025-CO1: Preparation of statement of Cash flow as per the provision of Ind AS *Application*

MBA2025-CO2: Demonstrate skills in decision making by using Cost Volume Profit analysi *Application*

MBA2025-CO3: Explain the procedure of determining variances along with method of preparing Cash & Flexible Budge *Application*

31. **Course Name:** Management and Measurement of Performance

Course Code: MBA4082

MBA4082-CO1: Describe the basic concepts of performance management. *Knowledge*

MBA4082-CO2: Identify the importance of managing individuals as well as organisational performance in the overall performance management system. *Comprehension*

MBA4082-CO3: Demonstrate how different performance appraisal tools can be designed and implemented *Application*

32. **Course Name:** Market Research

Course Code: MBA3039

MBA3039-CO1: Understand marketing research methods employed in the firms *Knowledge*

MBA3039-CO2: Recognize the role of systematic information in gathering and analyzing marketing designs *Comprehension*

MBA3039-CO3: Review on potential contributions of marketing research data *Comprehension*

MBA3039-CO4: Apply Market designs and techniques required for marketing experiments *Application*

33. **Course Name:** Marketing of Services-Concepts, Strategies and Cases

Course Code: MBA4081

MBA4081-CO1: To distinguish between concept of marketing of goods and services *Comprehension*

MBA4081-CO2: To Identify gaps in customer expectations of services *Comprehension*

MBA4081-CO3: To assess the competitive landscape in the services industry *Application*



MBA4081-CO4: To apply the appropriate strategies in delivering of service *Application*

34. Course Name: Entrepreneurship and Business Ethics

Course Code: MBA3051

MBA3051-CO1: Identify the entrepreneurial journey *Knowledge*

MBA3051-CO2: Develop business plan using business model canvas *Application*

MBA3051-CO3: Examine the role of technology in business. *Comprehension*

MBA3051-CO4: Understand the social responsibility of corporate towards society
Comprehension

35. Course Name: Mobile Marketing

Course Code: MBA3030

MBA3030-CO1: To Describe the power of mobile technologies as a way to access increasingly mobile consumers *Knowledge*

MBA3030-CO2: Select the concepts for building and maintaining an effective mobile marketing strategy. *Application*

MBA3030-CO3: Apply latest advances in social media marketing and integrate with mobile marketing. *Application*

MBA3030-CO4: Use Short Messaging Services SMS, Near Field Communication NFC, Mobile Sites, Apps, Bluetooth, and Quick Response QR Codes to engage customers. *Application*

36. Course Name: Optimization Techniques

Course Code: MBA3021

MBA3021-CO1: Apply Market designs and techniques required for marketing experiments
Application

MBA3021-CO2: Solve a transportation problem *Application*

MBA3021-CO3: Solve assignment problems *Application*

MBA3021-CO4: Solve PERT and CPM problems *Application*

37. Course Name: Predictive Analytics

Course Code: MBA3018

MBA3018-CO1: Recognize analytical problems and predict probable business value.
Knowledge

MBA3018-CO2: Identify Predictive Analytics models and analyses *Comprehension*

MBA3018-CO3: Illustrate business insights using predictive data models. *Application*



38. Course Name: Personality Development Basic

Course Code: PPs1003

PPs1003-CO1: Demonstrate confidence and effective communication *Comprehension*

39. Course Name: Personality Development Basic

Course Code: PPS1004

PPS1004-CO2: Prepare for impressive professional and social interactions *Application*

40. Course Name: Personality Development Basic

Course Code: PPS1005

PPS1005-CO3: Recognize proper grooming standards and corporate etiquette *Application*

41. Course Name: Personality Development Basic

Course Code: PPS1006

PPS1006-CO4: Understand team behaviour *Knowledge*

42. Course Name: Project Management

Course Code: MBA3014

MBA3014-CO1: Explain the significance of Project life cycle and project Selection *Comprehension*

MBA3014-CO2: Prepare a Work Breakdown Structure for a given project *Application*

MBA3014-CO3: Compute the project completion time for a given project network *Application*

MBA3014-CO4: Interpret various time and cost details based on network crash analysis *Analysis*

43. Course Name: Search Engine Optimization

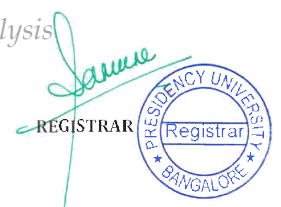
Course Code: MBA3029

MBA3029-CO1: Explain the importance and the types of SEO techniques *Comprehension*

MBA3029-CO2: Apply the On-Page SEO Techniques in optimizing a website for Organic Search Results *Application*

MBA3029-CO3: Apply the Off-Page SEO Techniques in optimizing a website for Organic Search Results *Application*

MBA3029-CO4: Analyze the websites using the Technical SEO Techniques *Analysis*



44. Course Name: Social Media Marketing

Course Code: MBA3027

MBA3027-CO1: To discuss the concept and landscape of Social Media Marketing
Comprehension

MBA3027-CO2: To interpret the major social media platforms and their way of functioning in Digital Marketing
Application

MBA3027-CO3: To Choose the right social media platforms for any business
Application

MBA3027-CO4: To Develop Social Media Visuals for any Business Using Canva
Creation

45. Course Name: Talent Management

Course Code: MBA3009

MBA3009-CO1: Describe the conceptual apparatus and theoretical debates informing global talent management
Comprehension

MBA3009-CO2: Evaluate succession planning and leadership development with a view to building sustainable organizational performance
Application

MBA3009-CO3: Demonstrate the importance of Talent management strategies, policies and practices for multinational firms
Application

MBA3009-CO4: Interpret the components of performance and compensation management to maximize people's potential and performance
Application

46. Course Name: Total Quality Management

Course Code: MBA2031

MBA2031-CO1: To explore terminologies of quality and know the methods of generating ideas for quality improvement.
Knowledge

MBA2031-CO2: To apply the principles and philosophies of quality management
Comprehension

MBA2031-CO3: To analyze the techniques of statistical process control and seven tools of quality control
Analysis

MBA2031-CO4: To discuss the tools and techniques of quality management
Application

47. Course Name: Warehousing and Inventory Management

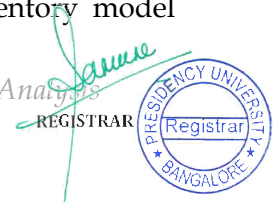
Course Code: MBA3043

MBA3043-CO1: Explain warehousing as a component of logistics
Comprehension

MBA3043-CO2: Apply the concept of warehousing Operations for design and layout decisions
Application

MBA3043-CO3: Analyze the considerations involved in developing an inventory model
Analysis

MBA3043-CO4: Calculate the lot sizes for the effective inventory management
Analysis



48. Course Name: Web Design using WordPress

Course Code: MBA4047

MBA4047-CO1: Discuss the concept of Word Press and its Tools, Trends, Practical ideas and actions for the organization. *Comprehension*

MBA4047-CO2: Illustrate general principle revealed through probing of tools, techniques in Word Press. *Application*

MBA4047-CO3: Analyze the plugins and themes requirements *Analysis*

49. Course Name: Engineering Economics

Course Code: MGT112

MGT112-CO1: Apply the appropriate engineering economics analysis methods for problem solving *Comprehension*

MGT112-CO2: Evaluate the cost effectiveness of individual engineering projects and market conditions *Application*

MGT112-CO3: Compare the life cycle cost of multiple projects and make a quantitative decision between alternative projects *Analysis*

MGT112-CO4: Perform present value and future value analysis and calculate time value of money to prepare and understand engineering project development and report generation. *Application*

MGT112-CO5: Compute the depreciation of an asset using standard depreciation techniques to assess its impact *Comprehensive*

50. Course Name: Digital Entrepreneurship

Course Code: MGT113

MGT113-CO1: Identify the prospects and challenges of digital entrepreneurship *Knowledge*

MGT113-CO2: Explain the role of digital technologies for developing products and services *Comprehension*

MGT113-CO3: Prepare business plan using business model canvas for digital entrepreneurial ventures. *Application*

MGT113-CO4: Solve problems related to Market potential, share and market size. *Application*



School of Design

1. Course Name: Multimedia Model

Course Code: BSM1001

BSM1001-CO1: Define what Multimedia is and how it works. *Knowledge*

BSM1001-CO2: Understand multimedia components using various tools and techniques. *Comprehension*

BSM1001-CO3: Analyze and interpret Multimedia data. *Application*

BSM1001-CO4: Discuss about different types of media format and their properties. *Analysis*

2. Course Name: Visual design & language

Course Code: BSM1002

BSM1002-CO1: Seek design principles, design process, theory, history and contemporary design practice. *Knowledge*

BSM1002-CO2: Gain proficiency in identified technical skills, understand the process of creating, analysing, and evaluating graphic design solutions. *Knowledge*

BSM1002-CO3: Visualize and demonstrate an idea and express it through visual design *Comprehension*

BSM1002-CO4: Justify the choice of appropriate tools according to the type of digital art work *Comprehension*

BSM1002-CO5: Demonstrate the knowledge of design & colors and apply them effectively to various assignments. *Application*

3. Course Name: Preproduction

Course Code: BSM1003

BSM1003-CO3: Provide skills in planning an animation film. *Knowledge*

BSM1003-CO4: Able to create Character Design, Story boards. *Comprehension*

BSM1003-CO5: Learn the process of Animation. *Application*

4. Course Name: Introduction to Character Sketching

Course Code: BSM1005

BSM1005-CO1: Understand the art of pencil drawing and sketching. *Knowledge*

BSM1005-CO2: Explore the dynamic feature of using pencils *Comprehension*

BSM1005-CO3: Illustrate and present any Characters with dimensional value and realistic feel. *Application*



5. Course Name: Production Pipeline

Course Code: BSM1006

BSM1006-CO1: Stages of Production *Knowledge*

BSM1006-CO2: Asset creation for Film and Game, The basic functionality of a pipeline, Software for a studio environment *Comprehension*

BSM1006-CO3: Analyze and interpret Data management, Production management *Application*

BSM1006-CO4: Discuss various Media production techniques *Analysis*

6. Course Name: Elements & Principles of Design

Course Code: BSM1011

BSM1011-CO1: Identify and define various terminologies associated with visual design. *Knowledge*

BSM1011-CO2: Compare and examine the different approaches towards visual design elements. *Comprehension*

BSM1011-CO3: Design various complex and meta patterns. *Application*

7. Course Name: Elements & Principles Of Design

Course Code: DES1007

DES1007-CO1: The basic terminology of Elements and Principles of design. *Knowledge*

DES1007-CO2: The design principles to manage simple project of multidisciplinary nature. *Comprehension*

DES1007-CO3: Ideas by using elements and Principles of Design. *Application*

8. Course Name: Observation and Ideation

Course Code: DES1010

DES1010-CO1: Relate the given design structure with its initial idea. *Knowledge*

DES1010-CO2: Recognize the need of the given design structure in the society and its usage to its full potential. *Comprehension*

DES1010-CO3: Recognize the cultural background from where the design structure initially originated. *Application*

9. Course Name: Materials Media Tools and Techniques

Course Code: DES1008

DES1008-CO1: Understand the characteristics, features and behavior of soft materials and hard materials. *Knowledge*



DES1008-CO2: Identify where most materials come from which processes are used to make a product. *Comprehension*

DES1008-CO3: Recognize basic family of materials used in soft-goods and hard- goods, including sustainable materials and manufacturing processes. *Application*

10. **Course Name:** Basics of Drawing Skills

Course Code: DES1015

DES1015-CO1: identify different mediums and techniques of drawing *Knowledge*

DES1015-CO2: able to observe, visualize and visual experience through the basic elements of Drawing. *Comprehension*

DES1015-CO3: improve visual representation by using perspectives. *Application*

11. **Course Name:** Elements & Principles Of Design

Course Code: DES1007

DES1007-CO1: Classify the design principles to manage simple project of multidisciplinary nature. *Knowledge*

DES1007-CO2: Classify the design principles to manage simple project of multidisciplinary nature. *Comprehension*

DES1007-CO3: Generate ideas by using elements and Principles of Design. *Application*

12. **Course Name:** Observation & Ideation

Course Code: DES1010

DES1010-CO1: Relate the given design structure with its initial idea. *Knowledge*

DES1010-CO2: Recognize the need of the given design structure in the society and its usage to its full potential Recognize the cultural background from where the design structure initially originated. *Comprehension*

DES1010-CO3: Analyze the reason behind the formation of the design structure its importance, implication within the origin culture. *Application*

13. **Course Name:** Contextual Understanding & Design History

Course Code: DES1011

DES1011-CO1: Recognise the evolution of design and its relationship to the environment and society. *Knowledge*

DES1011-CO2: Discuss different philosophies in design *Comprehension*

DES1011-CO3: Describe historical timelines and evolutions. *Application*



14. Course Name: Materials, Media, Tools & Techniques

Course Code: DES1008

DES1008-CO1: Understand the characteristics, features and behavior of soft materials and hard materials. *Knowledge*

DES1008-CO2: Identify where most materials come from which processes are used to make a product. *Comprehension*

DES1008-CO3: Recognize basic family of materials used in soft-goods and hard- goods, including sustainable materials and manufacturing processes. *Application*

15. Course Name: Basics Of Drawing Skills

Course Code: DES1015

DES1015-CO1: identify different mediums and techniques of drawing *Knowledge*

DES1015-CO2: Able to observe, visualize and visual experience through the basic elements of Drawing. *Comprehension*

DES1015-CO3: Improve visual representation by using perspectives. *Application*

16. Course Name: Basics of Visual Design

Course Code: DES2030

DES 2030-CO1: Identify and define various terminologies associated with visual design. *Knowledge*

DES 2030-CO2: Compare and examine the different approaches towards visual design elements. *Comprehension*

DES 2030-CO3: Design various complex and meta patterns. *Application*

17. Course Name: Contemporary Art for Communication(DE-I)

Course Code: DES2076

DES 2076-CO1: Discuss the history and relevance of development in design from ancient civilizations. *Knowledge*

DES 2076-CO2: Develop historical, cultural, social and economic sense in the aesthetics of art and their design in-terpretations *Comprehension*

DES 2076-CO3: Compare and contrast various techniques and movements associated with various prominent artworks across the world *Application*

18. Course Name: Basics of Communication

Course Code: DES2031



DES 2031-CO1: Paraphrase and identify communication process across various communication mediums. *Knowledge*

DES 2031-CO2: Identify and list the various component of message design. *Comprehension*

DES 2031-CO3: Interpret dynamics of various communication medium. *Application*

19. Course Name: Typography

Course Code: DES2032

DES 2032-CO1: Identify and define the influence of typography on visual perception. *Knowledge*

DES 2032-CO2: Analyze the various type forms and their derivatives and reconstruct them *Comprehension*

DES 2032-CO3: Develop variations in grid structures to create various type forms through explorative research work. *Application*

20. Course Name: Storytelling and Narrative

Course Code: DES2043

DES 2043-CO1: Identify storytelling models *Knowledge*

DES 2043-CO2: Associate narrative styles and theories to different type of communication medium. *Comprehension*

DES 2043-CO3: Use the storytelling technique for creating pragmatic communication approach alternatives. *Application*

21. Course Name: Visual Merchandising and Store Branding(DE-II)

Course Code: DES2033

DES 2033-CO1: Identify the elements and principles of visual merchandising. *Knowledge*

DES 2033-CO2: Recognize different visual merchandising concepts. *Comprehension*

DES 2033-CO3: Design and develop VM concepts to suit different formats of businesses *Application*

22. Course Name: Digital Design Tools

Course Code: DES2079

DES 2079-CO1: Understand basic of Raster and vector art. *Knowledge*

DES 2079-CO2: Identify different visual design tools *Comprehension*

DES 2079-CO3: Apply and create various visual styles using different techniques. *Application*

23. Course Name: Basics of Needle Craft

Course Code: DES1019



DES1019-CO1: Define the terminologies used in Hand sewing and embroidery. *Knowledge*

DES1019-CO2: Identify different types of garment hand stitches and finishes. *Comprehension*

DES1019-CO3: Apply various hand embroideries and stitches for surface embellishment
Application

24. Course Name: Textile Design Development

Course Code: DES1026

DES1026-CO1: Identify different Motifs and its source *Knowledge*

DES1026-CO2: Produce compositions with Motif repeat schemes based on end-applications.
Comprehension

DES1026-CO3: Relate elements and principles of design through outline drawing and Arrangement of designs. *Application*

25. Course Name: Analysis of Textile Materials

Course Code: DES1023

DES1023-CO1: Develop an ability to identify different textile fibres, yarns and fabrics.
Knowledge

DES1023-CO2: Distinguish between the fibre families and yarn categories based on intrinsic and extrinsic factors *Comprehension*

DES1023-CO3: Analyze the compositions and study the features of fibres, yarns and fabrics and apply the knowledge to various end uses/applications. *Application*

DES1023-CO4: Outline the manufacturing methods of fibers, yarns and fabrics through industrial learning. *Application*

26. Course Name: Basics of Textile Science

Course Code: DES2004

DES2004-CO1: Identify and define the elements of weaves based on the fundamental principles of textile design *Knowledge*

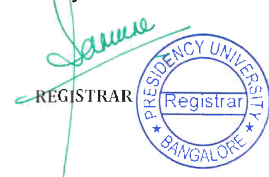
DES2004-CO2: Analyze the weaves and their derivatives and reconstruct them *Comprehension*

DES2004-CO3: Develop variations in the weave structures and apply them to artworks
Application

27. Course Name: 3D Modelling and Texturing

Course Code: BSM2008

BSM2008-CO1: Understand Various Tools and Techniques of Modeling software Maya 2022.
Knowledge



BSM2008-CO2: Develop the skill to produce various Object and Characteristic model and Texture. *Comprehension*

BSM2008-CO3: Utilize the developed skill to create industry slandered Models and able to Texture and Render. *Application*

28. **Course Name:** Video Technology and Production

Course Code: BSM2010

BSM2010-CO1: Plan and create video projects incorporating audio elements. *Knowledge*

BSM2010-CO2: Apply the techniques learnt in capturing and transferring of audio-visual outputs on external devices. *Comprehension*

BSM2010-CO3: Interpret the process of studio production in Television. *Application*

29. **Course Name:** Digital Cinematography

Course Code: BSM2024

BSM2024-CO1: Understand the implications of shooting in different camera with Proper Composition. *Knowledge*

BSM2024-CO2: Develop pre-production documentation such as storyboards, mood boards, shot lists and location surveys to facilitate a successful production *Comprehension*

BSM2024-CO3: Utilise the functions of various manual control settings on the Video cameras in order to take control of the visual field in front of the camera *Application*

30. **Course Name:** Principles of Animation

Course Code: BSM2014

BSM2014-CO1: Understand the logic behind principles involved in animation *Knowledge*

BSM2014-CO2: Discuss about different types of media format and their properties. *Comprehension*

BSM2014-CO3: Apply the principles during the production of animated series *Application*

31. **Course Name:** Observation & Ideation

Course Code: BSM1010

BSM1010-CO1: Relate the given design structure with its initial idea. *Knowledge*

BSM1010-CO2: Recognize the need of the given design structure in the society and its usage to its full potential. *Comprehension*

BSM1010-CO3: Recognize the cultural background from where the design structure initially originated. *Application*



32. Course Name: Design Thinking and Communication

Course Code: BSM1009

BSM1009-CO1: Understand the concepts of design thinking approaches. *Knowledge*

BSM1009-CO2: Develop the students as a good designer by imparting creativity and problem-solving ability. *Comprehension*

BSM1009-CO3: Practice design thinking skills in the development of innovative prototypes. *Application*

33. Course Name: Basic Visual Design and Tools

Course Code: DES1106

DES 1106-CO1: Identify and define various terminologies associated with visual design. *Knowledge*

DES 1106-CO2: Compare and examine the different approaches toward visual design elements. *Comprehension*

DES 1106-CO3: Design various complex and meta patterns in software *Application*

34. Course Name: Elements of Play

Course Code: DES2052

DES 2052-CO1: Define the board games in terms of gameplay, game mechanics, and game components. *Knowledge*

DES 2052-CO2: Generalize the game design process to generate new concepts. *Comprehension*

DES 2052-CO3: Produce simple board games *Application*

35. Course Name: Basics of Animation

Course Code: DES2064

DES 2064-CO1: Describe the Principle of Animation. *Knowledge*

DES 2064-CO2: Practice different types of Animation. *Comprehension*

DES 2064-CO3: Explain the different types of Animation. *Comprehension*

36. Course Name: Storytelling & Storyboarding

Course Code: DES2053

DES 2053-CO1: Explain the importance of Storytelling and Storyboarding in relation to animation *Knowledge*

DES 2053-CO2: Illustrate the elements of the character with the camera angle used in the storyboard. *Comprehension*

DES 2053-CO3: Demonstrate a complete output of the final Storyboard. *Application*



37. Course Name: Technical Design Drawing and Concepts

Course Code: DES2047

DES2047-CO1: Identify and define various terminologies associated with various types of technical drawings/Representative techniques used in the product design industry *Knowledge*

DES2047-CO1: Identify and define various terminologies associated with various types of technical drawings/Representative techniques used in the product design industry *Knowledge*

DES2047-CO2: Express the details of the concept through CAD skills *Comprehension*

DES2047-CO3: Differentiate materials, textures and surfaces through representation techniques to depict their ideas *Application*

DES2047-CO3: Sketch on paper to translate their ideas through representation techniques. *Application*

38. Course Name: Ancient History of Western Art and Craft

Course Code: DES1072

DES1072-CO1: Identify and discuss the relevance of forms, their development during ancient civilizations to use in stylization of the products. *Knowledge*

DES1072-CO2: Interpret the forms based on historical, cultural, social and economic factors to develop a sense of aesthetics of forms/products for design. *Comprehension*

DES1072-CO3: Compare various techniques and materials used in the manufacture of forms/sculptures/products and their materials in India and western world. *Application*

DES1072-CO4: Analyze the techniques used in sculpture art and product design developed by various global artists. *Analysis*

39. Course Name: Basics Techniques of Form Studies

Course Code: DES1077

DES1077-CO1: Identify and define the elements of forms based on the fundamental principles of product designs. *Knowledge*

DES1077-CO2: Analyze the form based on material, tools and technique used in design. *Comprehension*

DES1077-CO2: Recreate variations of forms, structures and evaluate their features through research work. *Comprehension*

DES1077-CO3: Interpret the elements of form, structures and the styles. *Application*

DES1077-CO3: Recreate contexts for a form to suggest creative use. *Application*

40. Course Name: Materials, tools and techniques

Course Code: DES1075



DES1075-CO1: Identify and define various terminologies associated with various types of technical drawings/Representative techniques used in the product design industry *Knowledge*

DES1075-CO2: Recreate ideas to through a set of skills like-sketching, detailed drawing, orthographic projections, cut sections and renderingCommunicate technically through CAD skills *Comprehension*

DES1075-CO2: Express the details of the concept through CAD skills *Comprehension*

DES1075-CO3: Differentiate materials, textures and surfaces through representation techniques to depict their ideas *Application*

DES1075-CO3: Sketch on paper to translate their ideas through representation techniques *Application*

41. Course Name: Basics of Ergonomics

Course Code: DES1092

DES1092-CO1: Identify the significance of ergonomics in the product design. *Knowledge*

DES1092-CO2: Interpret the historical evolution of forms and materials used in products on the basis of ergonomics. *Comprehension*

DES1092-CO2: Describe different theories and the concepts behind the various types/sizes of the products and their component available in the market. *Comprehension*

DES1092-CO3: Develop new forms for better solutions to save human efforts. *Application*

42. Course Name: Art and Sculptures

Course Code: DES1094

DES1094-CO1: Understand the character of plastic material to use for form generation. *Knowledge*

DES1094-CO2: Analyze the form based on material, tools and technique used in design. *Comprehension*

DES1094-CO3: Analyze the form based on material, tools and technique used in design. *Application*

43. Course Name: Mastery in Origami

Course Code: DES1096

DES1096-CO1: Understand the role of geometry and material manipulation in design. *Knowledge*

DES1096-CO2: Apply the basic skills learned to visualize 3D objects in sheet materials. *Comprehension*

DES1096-CO3: Able to generate creative forms for the products using sheet materials and geometric construction techniques. *Application*



44. Course Name: Space Analysis

Course Code: DES2022

DES2022-CO1: Describe the fundamental issues and methodology in designing spaces. *Knowledge*

DES2022-CO2: Develop floor plans considering all the factors affecting spatial composition. *Comprehension*

DES2022-CO3:

Prepare a visual analysis of a designed space. *Application*

45. Course Name: Autocad

Course Code: DES1056

DES1056-CO1: 1Define the fundamentals of CAD and the application of Tools. *KNOWLEDGE*

DES1056-CO2: 2Demonstrate good amount of knowledge in drawing, printing and publishing *Comprehension*

DES1056-CO3: 3Locate the Technical specifications, sections, etc in the drawing. *Application*

46. Course Name: Basic Material Technology

Course Code: DES1046

DES1046-CO1: 1Know the Basic materials used in construction and to understand the methods of construction techniques. *Knowledge*

DES1046-CO2: 2Employ the various materials while highlighting the current trends and innovations in architectural and interior projects. *Comprehension*

DES1046-CO3: 3Apply appropriate materials for various spaces in architectural design and interiors of buildings. *Application*

47. Course Name: History of Space Design

Course Code: DES1044

DES1044-CO1: 1Define and identify various styles, elements, techniques, crafts associated with a particular period in history. *Knowledge*

DES1044-CO2: 2Distinguish between different styles, crafts and techniques. *Comprehension*

DES1044-CO3: 3Demonstrate a basic comprehension of changing values and tastes in the history of design and articulate their contemporary relevance. *Application*

48. Course Name: Technical Drawing for Architecture

Course Code: DES2024

DES2024-CO1: 1Define the fundamentals of engineering drawing. *Knowledge*



DES2024-CO2: 2 Explain the basic Geometry and the principles. *Comprehension*

DES2024-CO3: 3 Demonstrate considerable skills in different types of projections. *Application*

49. **Course Name:** Color Theory for Interior Design

Course Code: DES1048

DES1048-CO1: 1 Identify different colour theories and colour schemes *Knowledge*

DES1048-CO2: 2 Produce compositions with colour schemes based on end-applications. *Comprehension*

DES1048-CO3: 3 Relate elements and principles of design through colour-based applications *Application*

50. **Course Name:** Basic Design Studio

Course Code: DES2016

DES2016-CO1: 1 Define an awareness of the relevance of form and space in 3D Design. *Knowledge*

DES2016-CO2: 2 Apply basic principles of form and space in the generation of 3D solids and the development of spatial enclosure. *Comprehension*

DES2016-CO3: 3 Synthesize and develop integrated design solutions. *Comprehension*

DES2016-CO4: 4 Produce a variety of concept and finished physical models *Application*

51. **Course Name:** Basic Character Design

Course Code: DES2061

DES 2061-CO1: Define the different shape and form studies. *Knowledge*

DES 2061-CO2: Understand different forms and shapes. *Comprehension*

DES 2061-CO3: Identify different artwork and their Origins. *Comprehension*

DES 2061-CO4: 4 Apply techniques to develop characters for games *Application*

52. **Course Name:** Cognitive Ergonomics for Communication Design

Course Code: BDC301

BDC301-CO1: Define Ergonomics and its application and overview *Knowledge*

BDC301-CO2: Interpret issues of cognition, perception and performance, physical environment and their impact on human performance *Comprehension*

BDC301-CO3: Apply of Visual Ergonomics principles to artifacts *Application*



53. Course Name: Advance Brand Identity Design for Marketing(DE-IV)

Course Code: BDC302

BDC302-CO1: Interpret and associate with the different concepts of Branding. *Knowledge*

BDC302-CO2: Apply learnings to create brand identities. *Comprehension*

BDC302-CO3: Synthesize brand manuals as per the brief *Application*

54. Course Name: Digital Communication for Designers

Course Code: BDC303

BDC303-CO1: Describe digital communication medium *Knowledge*

BDC303-CO2: Interpret the social media communication *Comprehension*

BDC303-CO3: Examine various digital media narratives *Application*

55. Course Name: Content Development for Communication Designers(DE-V)

Course Code: BDC304

BDC304-CO1: Describe what content development is as applied to Communication Design *Knowledge*

BDC304-CO2: Interpret the methods of user information gathering *Comprehension*

BDC304-CO3: Design optimized content as per the brief provided by the user. *Application*

56. Course Name: Audiography(DE-VI)

Course Code: BDC305

BDC305-CO1: Describe sound and it's various sub components *Knowledge*

BDC305-CO2: Interpret the methods of sound production and sound consumption from an anatomical and aesthetic perspective. *Comprehension*

BDC305-CO3: Examine different instruments and principles used in Audiography. *Application*

57. Course Name: Introduction to UX Design

Course Code: BDC306

BDC306-CO1: Understand UI design process *Knowledge*

BDC306-CO2: Wire-framing and prototyping *Comprehension*

BDC306-CO3: User research methods Mood-board *Application*

58. Course Name: Fashion Merchandising

Course Code: BDF305



BDF 305-CO1: Identify and define various departments and activities of apparel industry
Knowledge

BDF 305-CO2: Explain skills required in apparel production in industrial set-up
Comprehension

BDF 305-CO3: Define various marketing and merchandising terminologies *Application*

59. Course Name: Apparel Testing & Quality Management

Course Code: BDF304

BDF 304-CO1: Define quality, dimensions and its importance *Knowledge*

BDF 304-CO2: Recognize principles of quality and their applications in apparel industries
Comprehension

BDF 304-CO3: Discuss different types of quality management, control and assurance systems
Application

60. Course Name: Advanced Sewing Techniques

Course Code: BDF302

BDF 302-CO1: Recognize garment construction detailing's, finishing's and techniques.
Knowledge

BDF 302-CO2: Knowledge on constructing garment component parts. *Comprehension*

BDF 302-CO3: Develop garments as per Apparel Industry standards. *Application*

BDF 302-CO4: Identify the special features, attachments, advancements in all aspects of Garment manufacturing. *Comprehension*

61. Course Name: Advanced Pattern Making

Course Code: BDF301

BDF 301-CO1: Understand different art work and their Origins. *Knowledge*

BDF 301-CO2: Identify different hand Stitches and Styles of Surface Ornamentation.
Comprehension

BDF 301-CO3: Apply traditional techniques to Develop products and Accessories. *Application*

62. Course Name: Photography and Videography

Course Code: BDG301

BDG 301-CO1: Identify the practical exposure to handle camera functions and lighting techniques. *Knowledge*

BDG 301-CO2: Discuss the image-making skills in indoor and outdoor conditions.
Comprehension



BDG 301-CO3: Practice the techniques and aesthetics in photography. *Application*

63. Course Name: Advanced CAD Skills

Course Code: BDG302

BDG 302-CO1: Practice the different methods of rigging. *Knowledge*

BDG 302-CO2: Experiment and examine the different animation techniques. *Comprehension*

BDG 302-CO3: Select the appropriate tools and techniques to model and animate in CAD
Application

64. Course Name: Digital Prototyping

Course Code: BDP301

BDP 301-CO1: Find suitable tools to visualize a product idea through creating 3D models.
Knowledge

BDP 301-CO2: Compare the ideas to select best for the design brief by creating various options/versions of it *Comprehension*

BDP 301-CO3: Execute the Idea to provide overall picture of it through rendering color, material and trims. *Application*

BDP 301-CO4: Explain the reasons of alterations based on the experience of the structure and visual analysis of the product idea as per the given context. *Analysis*

65. Course Name: History of Art and Craft-I

Course Code: BDP302

BDP 302-CO1: Identify and discuss the relevance of forms, their development during ancient civilizations to use in stylization of the products. *Knowledge*

BDP 302-CO2: Interpret the forms based on historical, cultural, social and economic factors to develop a sense of aesthetics of forms/products for design. *Comprehension*

BDP 302-CO3: Compare various techniques and materials used in the manufacture of forms/sculptures/products and their materials in India and western world. *Application*

BDP 302-CO4: Analyze the techniques used in sculpture art and product design developed by various global artists. *Analysis*

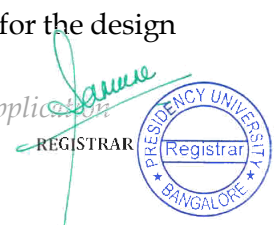
66. Course Name: Material Decisions and Preparation

Course Code: BDP303

BDP 303-CO1: Gather the required materials for a design brief by understanding the demand of the project. *Knowledge*

BDP 303-CO2: Compare and combine the materials to create and select the best for the design brief by creating various options/versions of it. *Comprehension*

BDP 303-CO3: Execute the Idea to get the desired results for a product Idea. *Application*



BDP 303-CO4: Explain the logic based on the experience and properties of the material to justify the product idea as per the given context. *Analysis*

67. Course Name: Design Research Methodologies

Course Code: BDP304

BDP 304-CO1: Understand and learn terminologies used in design research *Knowledge*

BDP 304-CO2: Memorize and explore different research tools and techniques. *Comprehension*

BDP 304-CO3: Compare various methods, methodologies and approaches of research *Application*

BDP 304-CO4: Apply various methods, methodologies and approaches of research in a research project. *Analysis*

68. Course Name: Simple Product Design (Space)

Course Code: BDP305

BDP305-CO1: Find the suitable tools to spot an opportunity of a product idea through creating research skills. *Knowledge*

BDP305-CO2: Compare the ideas to select best for the design brief by creating various options/versions of it. *Comprehension*

BDP305-CO3: Execute the product Idea to provide overall picture of it through rendering color, material, and trims to depict innovative/original concepts. *Application*

69. Course Name: Design Studio II

Course Code: BDS301

BDS301-CO1: 1Identify and undertake real life projects. *Knowledge*

BDS301-CO2: 2Produce design programs applying the knowledge gained during previous semesters. *Comprehension*

BDS301-CO3: 3Illustrate the design program with required physical and graphical tools. *Comprehension*

BDS301-CO4: 4Synthesize and develop integrated design solutions. *Comprehension*

BDS301-CO5: 5Produce a variety of concept and finished physical models. *Application*

70. Course Name: Furniture Design II

Course Code: BDS302

BDS302-CO1: 1Distinguish and discover about different types of a furnishings. *Knowledge*

BDS302-CO2: 2Identify, select and arrange different types of furniture's in a space. *Comprehension*

BDS302-CO3: 3Recognize and apply about the various anthropometric aspects, human factors and ergonomics involved in space design using furniture's. *Application*



71. Course Name: Building Services II

Course Code: BDS303

BDS303-CO1: 1Recognize all the major building service components used in a building.
Knowledge

BDS303-CO2: 2Explain the working of HVAC and firefighting systems. *COMPREHENSION*

BDS303-CO3: 3Discover from the variety of acoustic products available for interior applications. *Application*

72. Course Name: Detail Working Drawing

Course Code: BDS304

BDS304-CO1: 1Identify the construction drawings and their detailing. *Knowledge*

BDS304-CO2: 2Discover on how to do working drawing for different structure. *Comprehension*

BDS304-CO3: 3Translate the available 3D furniture's into orthographic projections with their detailing. *Application*

73. Course Name: Estimation and Costing

Course Code: BDS305

BDS305-CO1: 1List the various types of estimates used for design projects. *Knowledge*

BDS305-CO2: 2Discover how to and the factors needed to do an estimate for a project.
Comprehension

BDS305-CO3: 3Review the costing of different materials. *Application*

74. Course Name: C# Basics for Game Development

Course Code: BDG303

BDG 303-CO1: Understand basic OOPS programming concepts *Knowledge*

BDG 303-CO2: Identify different approaches to solve game logic. *Comprehension*

BDG 303-CO3: Apply all the techniques to develop games. *Application*

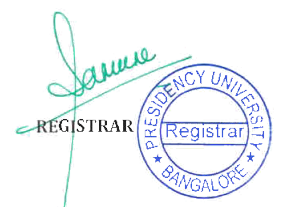
75. Course Name: Creating Cinematic For Games

Course Code: BDG305

BDG 305-CO1: Understand different cinematic tools in game engine. *Knowledge*

BDG 305-CO2: Identify different virtual camera techniques to make cinematics.
Comprehension

BDG 305-CO3: Apply composition techniques to cinematics. *Application*



76. Course Name: Game Ethics

Course Code: BDG306

BDG 306-CO1: Understand game ethics. *Knowledge*

BDG 306-CO2: Identify different moral and traditional values that could be affected by games. *Comprehension*

BDG 306-CO3: 3 Apply gained knowledge in developing games. *Application*

77. Course Name: 2D Game Design

Course Code: BDG304

BDG 304-CO1: Understand different art styles and explore the new possibilities in 2D games. *Knowledge*

BDG 304-CO2: Identify different methods of creating values paintings for background design. *Comprehension*

BDG 304-CO3: 3 Apply composition techniques to 2D games. *Application*

78. Course Name: Introduction to Design Thinking

Course Code: BCD406

BCD406-CO1: Design ideation and concept development for innovative projects *Knowledge*

BCD406-CO2: Research and prototype design and development based applications *Comprehension*

BCD406-CO3: Application in the field of innovative education and teaching-learning resource material design *Application*

BCD406-CO4: Entrepreneurial, start-up based and management-oriented programs and projects *Application*

79. Course Name: Design Project Management

Course Code: BCD402

BCD 402-CO1: Understand the need for project management. *Knowledge*

BCD 402-CO2: Understand different techniques of activity planning and employ a Work Breakdown structure *Comprehension*

BCD 402-CO3: Understand different project management approach relevant to Design. *Application*

80. Course Name: Basics of System Design

Course Code: BCD403



BCD 403-CO1: Understand different subsystem and setups in system. *Knowledge*

BCD 403-CO2: Identify wicked problems in the system. *Comprehension*

BCD 403-CO3: Apply system thinking approach. *Application*

81. Course Name: Entrepreneurship Development for Designers

Course Code: BCD405

BCD 405-CO1: Understand different types of enterprise structures *Knowledge*

BCD 405-CO2: Understanding Idea Generation Techniques. *Comprehension*

BCD 405-CO3: Developing business models *Application*

82. Course Name: Introduction to Fashion Portfolio

Course Code: BFD401

BFD 401-CO1: Select effective ways to develop and showcase their portfolio *Knowledge*

BFD 401-CO2: Demonstrate methods for design research on trend forecasting *Comprehension*

BFD 401-CO3: Prepare inspiration, mood, colour, client, and texture boards *Application*

BFD 401-CO4: Illustrate sketches and compositions using mixed media and digital tools
Application

83. Course Name: Trend Forecasting and analysis

Course Code: BPD401

BPD 401-CO1: Improve visual representation by using perspectives. *Knowledge*

BPD 401-CO2: Understand systems and their existence through cases study *Comprehension*

BPD 401-CO3: able to interact with the surroundings, materials and various physical qualities
Application

84. Course Name: System Design

Course Code: BPD402

BPD 402-CO1: Understand systems and their existence through cases study *Knowledge*

BPD 402-CO2: Identify gap areas to improve the systems through design thinking
Comprehension

BPD 402-CO3: Apply design methods and processes to develop better systems to achieve sustainable goal *Application*

85. Course Name: Form and Functions (Biomimicry)

Course Code: BPD403



BPD 403-CO1: Understand biological phenomena and their existence through cases study.

Knowledge

BPD 403-CO2: Identify the interesting facts about nature to study various aspects through thorough study *Comprehension*

BPD 403-CO3: Apply the teachings of nature to develop interesting objects to achieve sustainable goals

Application

86. Course Name: Complex Product Design

Course Code: BPD404

BPD 404-CO1: Understand different roles of teamwork through group projects and coordination. *Knowledge*

BPD 404-CO2: Identify different tools and techniques to apply multidisciplinary approach in order to address complex problems *Comprehension*

BPD 404-CO3: Apply design methods and processes to test the tools learned, and are used from opportunity mapping to final product prototype design *Application*

87. Course Name: Organizational Behaviour

Course Code: BFD404

BFD 404-CO1: Define micro and macro approaches to organizational behaviour *Knowledge*

BFD 404-CO2: Explain group dynamics and skills required for team building *Comprehension*

BFD 404-CO3: Discuss the implementation of organizational change *Application*



School of Computer Science and Engineering

1. Course Name: Computer Organization and Architecture

Course Code: CSE2009

CSE2009-CO1: Discuss the basic components of a computer, their interconnections, and instruction set architecture *Comprehension*

CSE2009-CO2: Apply appropriate techniques to carry out selected arithmetic operations *Application*

CSE2009-CO3: Explain the organization of memory and processor sub-system *Comprehension*

2. Course Name: Data Communication and Computer Networks

Course Code: CSE2011

CSE2011-CO1: 1 Explain the concepts of Computer Networks and Working Principles of Application Layer and Transport Layer *Comprehension*

CSE2011-CO2: 2 Apply the Knowledge of IP Addressing and Routing Mechanism in Computer Networks *Application*

CSE2011-CO3: 3 Discuss the functionalities of Data Link Layer *Comprehension*

CSE2011-CO4: 4 Explain the Basic Concepts of Data communication *Comprehension*

3. Course Name: Cloud Computing

Course Code: CSE2013

CSE2013-CO1: Describe fundamentals of cloud computing, virtualization and cloud computing services. *Knowledge*

CSE2013-CO2: Explain security and standards in cloud computing. *Comprehension*

CSE2013-CO3: Discuss Cloud mechanisms to optimize the QoS parameters. *Comprehension*

CSE2013-CO4: Develop applications using Cloud services and VM instances. *Application*

4. Course Name: Software Engineering

Course Code: CSE2014

CSE2014-CO1: 1 Describe the software engineering principles, ethics and process models. *Knowledge*

CSE2014-CO2: 2 Identify the requirements and appropriate design models for a given application. *Comprehension*

CSE2014-CO3: 3 Discuss the various types of testing methods and Quality Assurance. *Comprehension*



CSE2014-CO4: 4 Apply project planning, scheduling, evaluation and risk management principles for a given project. *Application*

5. Course Name: Theory of Computation

Course Code: CSE2018

CSE2018-CO1: Describe various components of Automata Knowledge *Knowledge*

CSE2018-CO2: Illustrate Finite Automata for the given Language Application *Application*

CSE2018-CO3: Distinguish between Regular grammar and Context free grammar *Comprehension*

CSE2018-CO4: Construct Push down Automata Application *Application*

CSE2018-CO5: 5. Construct Turing machine for a Language Application *Application*

6. Course Name: Business Continuity and Risk Analysis

Course Code: CSE2025

CSE2025-CO1: Describe the principle of risk management *Knowledge*

CSE2025-CO2: Know what incident response alternatives are and be ready to talk about them. *Knowledge*

CSE2025-CO3: Design an incident response plan for sustained organizational operations *Application*

CSE2025-CO4: Illustrate the contingency strategies, including data backup and recovery and alternate site selection for business resumption planning. *Comprehension*

7. Course Name: Operating System

Course Code: CSE2010

CSE2010-CO1: Describe the fundamental concepts of operating Systems *Knowledge*

CSE2010-CO2: Demonstrate various CPU scheduling algorithms *Application*

CSE2010-CO3: Apply synchronization tools to a given problem *Application*

CSE2010-CO4: Discuss various memory management techniques. *Comprehension*

8. Course Name: Data Analysis and visualization

Course Code: CSE2015

CSE2015-CO1: Interpret various types of data and the principles of data visualization *Comprehension*

CSE2015-CO2: Apply visualization techniques to a problem and its associated dataset. *Application*

CSE2015-CO3: Create interactive visualization for better insight using various visualization tools. *Application*



CSE2015-CO4: Manipulate streaming data using various techniques *Application*

9. Course Name: Fundamentals of Data Analytics

Course Code: CSE2027

CSE2027-CO1: 1 Explain different types of data and variables. Com level *Comprehension*

CSE2027-CO2: 2 Interpret data using appropriate statistical methods *Application level Application*

CSE2027-CO3: 3 Demonstrate the collection, processing and analysis of data for any given application and illustrate various charts using visualization methods *Application level Application*

CSE2027-CO4: 4 Apply the Data Analysis techniques by MAT Lab *Application level Application*

10. Course Name: Programming in C++

Course Code: CSE2036

CSE2036-CO1: Illustrate the need and features of OOP and idealize how C++ differs from C *Knowledge*

CSE2036-CO2: Infer knowledge on various types of overloading, streams. *Application*

CSE2036-CO3: Implement inheritance and polymorphism for building real-time applications. *Application*

CSE2036-CO4: Apply the concepts of pointers and effective memory management *Application*

CSE2036-CO5: Implement the concepts of files *Application*

11. Course Name: Cyber Threats for IoT and Cloud

Course Code: CSE2040

CSE 2040-CO1: Describe the different types of cyber threats for IOT and cloud *Knowledge*

CSE 2040-CO2: Develop a deeper understanding and familiarity with various types of cyber-attacks, cybercrimes, vulnerabilities and remedies thereto. *Comprehension*

CSE 2040-CO3: Analyze different types of cyber threats using tools *Application*

CSE 2040-CO4: Plan, implement, and monitor cyber security mechanisms to ensure the protection of information technology assets. *Application*

12. Course Name: Robotic Vision

Course Code: CSE2048

CSE2048-CO 1: Discuss the overview of robotics. *Knowledge*

CSE2048-CO 2: Illustrate the various computer vision that are used in robot system *Application*

CSE2048-CO 3: Apply the basic concepts of Vision to Design a robot system. *Application*



CSE2048-CO 4: Use an appropriate algorithm to solve basic vision-based problems.
Application

13. Course Name: Information Retrieval

Course Code: CSE2051

CSE2051-CO1: Define basic concepts of information Retrieval Knowledge *Knowledge*

CSE2051-CO2: Evaluate the effectiveness and efficiency of different information retrieval methods Application *Application*

CSE2051-CO3: Explain different indexing methodology requirements and the concept of web retrieval and crawling Comprehension *Comprehension*

CSE2051-CO4: Classify different recommender system and its aspect Comprehension *Comprehension*

14. Course Name: Enterprise Network Design

Course Code: CSE2053

CSE2053 -CO1: Understand the customer requirements and Apply a Methodology to Network Design Structure and Modularize the Network. *Knowledge*

CSE2053 -CO2: Design Basic Campus and Data Center Network, and Remote Connectivity. *Application*

CSE2053 -CO3: Design IP Addressing and Select suitable Routing Protocols for the Network *Application*

CSE2053 -CO4: Compare OpenFlow controllers and switches with other enterprise networks. *Comprehension*

15. Course Name: Storage Area Networks

Course Code: CSE2054

CSE2054-CO1: Identify key challenges in managing information and analyze different storage networking technologies *Knowledge*

CSE2054-CO2: Explain physical and logical components of a storage infrastructure of RAID, and intelligent storage systems and networking technologies such as FC SAN *Comprehension*

CSE2054-CO3: Describe storage networking technologies such as IP SAN, NAS. *Comprehension*

CSE2054-CO4: Articulate business continuity solutions – backup and archive for managing fixed content. *Application*

16. Course Name: Web 2.0

Course Code: CSE2056



CSE2056-CO1: Demonstrate database-driven web application with the server-side script using PHP *Application*

CSE2056-CO2: Employ JavaScript frameworks to develop rich internet applications *Application*

CSE2056-CO3: Demonstrate web application using Flex architecture deployed to flash player *Application*

CSE2056-CO4: Describe the concept of Ajax Patterns and implement ajax patterns in real time. *Application*

17. Course Name: Firewall and Network Security

Course Code: CSE2058

CSE2058-CO1: Identify elements of firewall design, types of security threats and responses to security attacks *Knowledge*

CSE2058-CO2: Examine security incident postmortem reporting and ongoing network security activities *Comprehension*

CSE2058-CO3: Construct code for authentication algorithms *Application*

CSE2058-CO4: Develop a signature scheme using Digital signature standard. *Application*

CSE2058 - CO5: Demonstrate the network security system using open source tools. *Application*

18. Course Name: Mobile Networking

Course Code: CSE2059

CSE2059-CO1: Discuss various protocols in Ad-hoc and Sensor Networks *Comprehension*

CSE2059-CO2: Express the Wireless Broadband Networks Technology Overview, Platforms and Standards *Comprehension*

CSE2059-CO3: Apply the management, testing and troubleshooting in Wireless Broadband Networks working principles of wireless LAN, its standards *Application*

CSE2059-CO4: Demonstrate various wireless networks using latest tools *Application*

19. Course Name: Distributed Systems

Course Code: CSE2052

CSE2052-CO1: Describe the functional characteristics and challenges in distributed system *Knowledge*

CSE2052-CO2: Summarize the mechanism of inter process, indirect communication techniques. *Comprehension*

CSE2052-CO3: Discuss the features of peer to peer services and file systems. *Comprehension*

CSE2052-CO4: Apply synchronization techniques. *Application*

CSE2052-CO5: Explicate the different process and resource management approaches. *Comprehension*



20. **Course Name:** Datacommunications and Computer Networks

Course Code: CSE2011

CSE2011-CO1: Explain the concepts of Computer Networks and Working Principles of Application Layer and Transport Layer *Comprehension*

CSE2011-CO2: Apply the Knowledge of IP Addressing and Routing Mechanism in Computer Networks *Application*

CSE2011-CO3: Describe the functionalities of Data Link Layer *Comprehension*

CSE2011-CO4: Explain the Basic Concepts of Data communication *Comprehension*

21. **Course Name:** Design and Analysis of Algorithms

Course Code: CSE2007

CSE2007-CO1: Use Mathematical tools to analyze and compute asymptotic running times of algorithms *Comprehension*

CSE2007-CO2: Choose Brute Force and Greedy Techniques to design algorithms for a given scenario *Comprehension*

CSE2007-CO3: Choose between divide and conquer and decrease and conquer techniques to design algorithms for a given scenario *Application*

CSE2007-CO4: Choose between dynamic programming and backtracking to design algorithms for a given scenario *Application*

22. **Course Name:** Computer Organization and Architecture

Course Code: CSE2009

CSE2009-CO1: Discuss the basic components of a computer, their interconnections, and instruction set architecture *Comprehension*

CSE2009-CO2: Apply appropriate techniques to carry out selected arithmetic operations *Application*

CSE2009-CO3: Explain the organization of memory and processor sub-system *Comprehension*

23. **Course Name:** Database Management Systems

Course Code: CSE2074

CSE2074-CO1: Describe the basic concepts of relational data model, entity-relationship model and database architectures *Knowledge*

CSE2074-CO2: Solve Structured Query Language SQL queries to create, read, update, and delete relational database data *Application*



CSE2074-CO3: Apply normalization techniques to minimize redundancy and remove insertion, deletion and updating anomalies *Application*

CSE2074-CO4: Identify the concurrent execution of transactions in shared databases. *Comprehension*

24. Course Name: Fundamentals of Data Analytics

Course Code: CSE2027

CSE2027-CO1: Explain different types of data and variables *Comprehension*

CSE2027-CO2: Interpret data using appropriate statistical methods *Application*

CSE2027-CO3: Demonstrate the collection, processing and analysis of data for any given application and Illustrate various charts using visualization methods *Application*

CSE2027-CO4: Apply the Data Analysis techniques by MAT Lab *Application*

25. Course Name: Digital Image Processing

Course Code: CSE3081

CSE3081-CO1: Explain the fundamentals of digital image processing *Knowledge*

CSE3081-CO2: Perform image enhancement techniques in spatial and frequency domain *Comprehension*

CSE3081-CO3: Illustrate the mathematical modeling of image degradation and restoration *Application*

CSE3081-CO4: Apply the concept of image segmentation *Application*

26. Course Name: Software Engineering

Course Code: CSE2014

CSE2014-CO1: Describe the Software Engineering principles, ethics and process models *Knowledge*

CSE2014-CO2: Identify the requirements, analysis and appropriate design models for a given application *Comprehension*

CSE2014-CO3: Understand the Agile and DevOps Principles *Knowledge*

CSE2014-CO4: Apply appropriate process models and maintenance strategies to the target software *Application*

27. Course Name: Theory of Computations

Course Code: CSE2018

CSE2018-CO1: Understand basic concepts of Automata and its types *Knowledge*

CSE2018-CO2: Construct Finite Automata with its Simulation *Application*



CSE2018-CO3: Distinguish between Regular Grammar and Context Free Grammar
Comprehension

CSE2018-CO4: Design Push Down Automata *Application*

CSE2018-CO5: Implement Turing machine for a Language *Application*

28. Course Name: Foundations of Blockchain Technology

Course Code: CSE2019

CSE2019-CO1: Understand the concepts of an emerging blockchain technology *Knowledge*

CSE2019-CO2: Infer the knowledge about consensus protocols *Comprehension*

CSE2019-CO3: 3Explore Bitcoin payment methods *Comprehension*

CSE2019-CO4: Develop simple smart contract *Comprehension*

29. Course Name: Blockchain Technology and Applications

Course Code: CSE2020

CSE2020-CO1: Understand the concepts of Blockchain Technology *Knowledge*

CSE2020-CO2: Explain the methods for verification and validation of Bitcoin transactions
Comprehension

CSE2020-CO3: Explore the use ofEthereum programming *Application*

CSE2020-CO4: Illustrate the role of blockchain in various domain *Comprehension*

30. Course Name: NoSQL Databases

Course Code: CSE2024

CSE2024-CO1: Define the NoSQL databases *Knowledge*

CSE2024-CO2: Apply the document data model for CRUD operations *Application*

CSE2024-CO3: DemonstrateColumnar data model for NoSQL databases *Application*

31. Course Name: Data Handling and Visualization

Course Code: CSE2026

CSE2026-CO1: Employ the complete Data Handling pipeline *Comprehension*

CSE2026-CO2: Handle data occurring in large volumes *Application*

CSE2026-CO3: Apply the basic principles and elements of visualization *Application*

32. Course Name: Introduction to Fog Computing

Course Code: CSE2032

CSE2032-CO1: Understand the basic principles and concepts of Fog Computing *Knowledge*



CSE2032-CO2: Identify the middleware and orchestration techniques of Fog Computing
Comprehension

CSE2032-CO3: Discuss the requirements, implementation and integration of Fog Computing solutions
Comprehension

CSE2032-CO4: Apply fog computing solutions to real world problems
Application

33. Course Name: Cyber Forensics

Course Code: CSE2037

CSE2037-CO1: Understand various digital investigation terminologies and methods
Knowledge

CSE2037-CO2: Understand various file formats
Knowledge

CSE2037-CO3: Recognize the importance of digital forensic duplication and various tools for analysis to achieve adequate perspectives of digital forensic investigation in various applications
Comprehension

CSE2037-CO4: Apply techniques for forensic investigation
Application

34. Course Name: Ethical Hacking

Course Code: CSE2039

CSE2039-CO1: Illustrate the importance of ethical hacking
Knowledge

CSE2039-CO2: Categorize the various techniques for performing reconnaissance
Application

CSE2039-CO3: Demonstrate various types of system scanners and their functions
Application

CSE2039-CO4: Apply the function of sniff on a network
Application

35. Course Name: Information System Audit

Course Code: CSE2055

CSE2055-CO1: 1State the building blocks of information systems
Knowledge

CSE2055-CO2: 2Describe the fundamentals of Management Information System and ERP
Comprehension

CSE2055-CO3: Express the Information System Audit procedures
Comprehension

CSE2055-CO4: Apply system changes more manageable using formal IS Management practices, such as Change Management Controls and Emergency Changes
Application

36. Course Name: Internet of Things

Course Code: CSE2031



CSE2031-CO1: Describe building blocks of Internet of Things and characteristics *Knowledge*

CSE2031-CO2: Discuss appropriately IoT Protocols *Comprehension*

CSE2031-CO3: Demonstrate uses of IoT devices for application *Application*

37. Course Name: Quantum Computing

Course Code: CSE3080

CSE3080-CO1: To provide the students an introduction to quantum computation and basics of quantum mechanics. *Knowledge*

CSE3080-CO2: To Design and construct quantum circuits using quantum gates. *Application*

CSE3080-CO3: To learn to dissect and conversion of classical computation algorithm into quantum algorithm *Comprehension*

CSE3080-CO4: To understand difference between classical machine learning with Quantum machine learning *Knowledge*

38. Course Name: Dot Net Full Stack Development

Course Code: CSE392

CSE392-CO1: Practice the use of C# for developing a small application *Application*

CSE392-CO2: Demonstrate web applications using Entity Framework *Application*

CSE392-CO3: Solve simple web applications that use SQL and ASP.NET *Application*

CSE392-CO4: Apply concepts of ASP.NET to develop a Full Stack application *Application*

39. Course Name: JAVA Full Stack Development

Course Code: CSE391

CSE391-CO1: Practice the use of Java for full stack development. Understanding *Application*

CSE391-CO2: Build web applications using Java EEApplication *Application*

CSE391-CO3: Solve simple applications using Java Persistence and Hibernate. Application *Application*

CSE391-CO4: Apply concepts of Spring to develop a Full Stack application Application *Application*

CSE391-CO5: Employ automation tools like Maven, Selenium for Full Stack development Application *Application*

40. Course Name: Front End Full Stack Development

Course Code: CSE390

CSE390-CO1: Describe the fundamentals of DevOps and Front-end full stack development *Comprehension*

CSE390-CO2: Illustrate development of a responsive web *Application*



CSE390-CO3: Apply concepts of Angular.js to develop a web front-end *Application*

CSE390-CO4: Apply concepts of Angular.js to develop a web front-end *Application*

41. Course Name: No SQL Databases

Course Code: CSE5017

CSE5017-CO1: Define the NoSQL databases *Knowledge*

CSE5017-CO2: Apply the document data model for CRUD operations *Application*

CSE5017-CO3: Demonstrate Columnar data model for NoSQL databases *Application*

42. Course Name: Artificial Intelligence

Course Code: CSE5005

CSE5005-CO1: Explain the Concepts and algorithms of Modern Artificial Intelligence *Comprehension*

CSE5005-CO2: Choose appropriate AI Methods in applying scientific method to models of machine learning *Comprehension*

CSE5005-CO3: Apply AI Principles and techniques to real-world problems to develop intelligent systems. *Application*

43. Course Name: Knowledge Engineering and Expert Systems

Course Code: CSE5006

CSE5006-CO1: Explain the basic concepts in Knowledge Engineering and types of Knowledge based system *Comprehension*

CSE5006-CO2: Discuss the process of acquiring the Knowledge from the human expert. *Application*

CSE5006-CO3: Apply the logical rules, Semantic Networks and Frames for representing the knowledge *Application*

CSE5006-CO4: Life Cycle and Methodologies applied to support the development of Knowledge based Systems *Application*

CSE5006-CO5: Explain how expert system deal with uncertainty and describes architecture and tools used. *Application*

44. Course Name: Machine Learning Algorithms

Course Code: CSE5007

CSE5007-CO1: Identify the characteristics of datasets and compare the trivial data for various applications. *Comprehension*

CSE5007-CO2: Understand and apply scaling-up machine learning techniques. *Comprehension*

CSE5007-CO3: To design and implement various machine learning algorithms in a range of real-world applications. *Application*



45. Course Name: Programming in Data Science

Course Code: CSE5008

CSE5008-CO1: Discuss about the process involved in Data Science *Knowledge*

CSE5008-CO2: Explore Data using Python Numpy and Pandas *Application*

CSE5008-CO3: Demonstrate Data Visualization using Matplotlib *Application*

CSE5008-CO4: Explore Data using R and Visualize using R Graphics *Application*

46. Course Name: Data Analytics and Visualization

Course Code: CSE5009

CSE5009-CO1: Analyze data by performing Exploratory Data Analysis *Comprehension*

CSE5009-CO2: Apply techniques of Machine Learning to build Generalized Predictive Models *Application*

CSE5009-CO3: Explain basic concepts of Data Visualization *Comprehension*

CSE5009-CO4: Apply principles of Data Visualizations to provide insights from data. *Application*

47. Course Name: Discipline Elective-I Soft Computing Techniques

Course Code: CSE5013

CSE5013-CO1: Define the concept and applications of Soft Computing. *Knowledge*

CSE5013-CO2: Discuss Fuzzy logic concepts and its applications. *Comprehension*

CSE5013-CO3: Demonstrate Artificial Neural Networks concepts and its applications. *Comprehension*

CSE5013-CO4: Apply Evolutionary algorithms and hybrid soft computing techniques. *Application*

48. Course Name: Discipline Elective-I Essentials of Machine Learning

Course Code: CSE5016

CSE5016-CO1: Understand the basic concepts of Probability and Statistics. *Knowledge*

CSE5016-CO2: Understand the basic concepts of Linear Algebra. *Comprehension*

CSE5016-CO3: Peruse courses on Machine learning/Deep learning in future *Application*

49. Course Name: Information Security

Course Code: CSE240

CSE240-CO1: Describe the basic concept of information security *Knowledge*



CSE240-CO2: Explain the concepts and methods of cryptography *Comprehension*

CSE240-CO3: Demonstrate the aspects of risk management *Application*

CSE240-CO4: Illustrate Network Security concepts *Application*

50. **Course Name:** Wireless Sensor and Adhoc Networks

Course Code: CSE241

CSE 241-CO1: Explain the basic working of the Wireless systems. *Knowledge*

CSE 241-CO2: Describe different protocols being used by wireless networks including ABR and MANETS *Knowledge*

CSE 241-CO3: Illustrate the Fundamental Concepts and applications of ad hoc and wireless sensor networks *Comprehension*

CSE 241-CO4: Interpret the WSN routing issues by considering related QoS measurements *Application*

51. **Course Name:** Internet Technologies

Course Code: CSE256

CSE 256-CO1: Describe the concept of web application terminologies and Internet tools *Comprehension*

CSE 256-CO2: Employ HTML tags and CSS features to develop a web site *Application*

CSE 256-CO3: Illustrate java-script concepts to demonstration dynamic web site *Application*

CSE 256-CO4: Develop web based application using jQuery *Application*

52. **Course Name:** Design and Analysis of Algorithms

Course Code: CSE2007

CSE2007-CO1: Classify the types of asymptotic notations *Comprehension*

CSE2007-CO2: Discuss the Brute Force Technique used for solving a problem *Application*

CSE2007-CO3: Explain divide and conquer technique for searching and sorting problems *Comprehension*

CSE2007-CO4: Discuss the Dynamic Programming Algorithm used for solving a problem *Comprehension*

CSE2007-CO5: Discuss the Back tracking technique and limitations of Algorithms *Comprehension*

53. **Course Name:** Problem Solving Using Java

Course Code: CSE1001

CSE1001-CO1: Describe the basic programming concepts *Knowledge*



CSE1001-CO2: Apply the concept of classes, objects and methods to solve problems
Application

CSE1001-CO3: Apply the concept of arrays and strings *Application*

CSE1001-CO4: Implement inheritance and polymorphism building secure applications
Application

CSE1001-CO5: Apply the concepts of interface and error handling mechanism *Application*

54. **Course Name:** Digital and Mobile Forensics

Course Code: CSE397

CSE 397-CO1: Outline the basic concepts of Cyber crime and Digital Forensics *Knowledge*

CSE 397-CO2: Employ various Digital Forensic tools to perform Forensic investigation
Application

CSE 397-CO3: Interpret security challenges and Forensic examination process of wireless devices *Comprehension*

CSE 397-CO4: Produce digital evidence through the usage of mobile device Forensic tools
Application

55. **Course Name:** Data Mining

Course Code: CSE307

CSE307-CO1: Apply the various pre-processing techniques needed for a data mining task
Knowledge

CSE307-CO2: Understand the functionality of the various data mining algorithms
Comprehension

CSE307-CO3: Appreciate the strengths and limitations of various data mining models
Application

CSE307-CO4: Understand the advances in data mining for real life applications *Application*

CSE307-CO5: Identify key challenges in managing information and analyze different storage networking technologies *Knowledge*

56. **Course Name:** Storage Area Networks

Course Code: CSE313

CSE313-CO1: Explain physical and logical components of a storage infrastructure of RAID, and intelligent storage systems *Knowledge*

CSE313-CO2: Describe Object and Content addressed storage and storage virtualization
Comprehension

CSE313-CO3: Describe Object and Content addressed storage and storage virtualization.
Comprehension

CSE313-CO4: Articulate business continuity solutions – backup and archive for managing fixed content *Application*



57. Course Name: Machine Learning

Course Code: CSE319

CSE 319-CO1: Explain the basic concepts on Machine Learning *Comprehension*

CSE 319-CO2: Apply Supervised Machine Learning algorithms on real time Applications *Application*

CSE 319-CO3: Apply Un-Supervised Machine Learning algorithm for real time problems *Application*

CSE 319-CO4: Illustrate advanced concepts in machine learning *Application*

58. Course Name: Mobile Communication

Course Code: CSE304

CSE 304-CO1: Explain the limitations of fixed networks, the need and the trend toward mobility, the concepts of portability and mobility *Comprehension*

CSE 304-CO2: Describe the network infrastructure requirements to support mobile devices and users *Comprehension*

CSE 304-CO3: Explain the concepts, techniques, protocols, and architecture employed in wireless local area networks, cellular networks, and perform basic requirements analysis *Comprehension*

CSE 304-CO4: Apply techniques and technologies to design a communication application for mobile devices *Application*

59. Course Name: Data Visualization

Course Code: CSE367

CSE367-CO1: Understand the visual representation of data *Knowledge*

CSE367-CO2: Analyze the one, two and multi-dimensional data for the data visualization process and evaluate the visualization of groups, trees, graphs, clusters, networks and software *Application*

CSE367-CO3: Construct the effective model for data visualization by using various techniques *Application*

CSE367-CO4: Describe the concepts of web services and service-oriented architecture *Application*

60. Course Name: Web Services

Course Code: CSE311

CSE311-CO1: Develop SOAP-based Web Services for a given scenario *Knowledge*

CSE311-CO2: Develop SOAP-based Web Services for a given scenario *Application*

CSE311-CO3: Develop RESTful architecture-based Services for a given scenario *Application*



CSE311-CO4: Demonstrate the cloud-based micro services *Comprehension*

61. Course Name: Mobile Application Development

Course Code: CSE310

CSE310-CO1: Discuss the fundamentals of mobile application development and its architecture *Comprehension*

CSE310-CO2: Illustrate mobile applications with appropriate android view *Application*

CSE310-CO3: Demonstrate the use of services, broadcast receiver, Notifications and content provider *Application*

CSE310-CO4: Apply data persistence techniques, to perform CRUD operations *Application*

CSE310-CO5: Use advanced concepts for mobile application development *Application*

62. Course Name: Data Warehousing and Mining

Course Code: CSE384

CSE384-CO1: Describe data warehousing architecture and considerations to build data warehouse *Knowledge*

CSE384-CO2: Discuss different multidimensional data models for data warehouse *Comprehension*

CSE384-CO3: Apply various classification and clustering methods for mining information from data *Application*

CSE384-CO4: Apply different techniques to find outliers in dataApplication *Application*

63. Course Name: Natural Language Processing

Course Code: CSE243

CSE243-CO1: Define the various tasks and applications of natural language processing *Knowledge*

CSE243-CO2: Visualize how words and text is represented using vector representations *Comprehension*

CSE243-CO3: Determine the parts-of-speech tags of a text by learning the information using a Hidden Markov Model *Application*

CSE243-CO4: Use different tools of NLP for solving a particular task *Application*

64. Course Name: Digital Communication and Computer Networks

Course Code: CSE249

CSE 249-CO1: Explain the concepts of Computer Networks and Working Principles of Application Layer and Transport Layer *Comprehension*

CSE 249-CO2: Apply the Knowledge of IP Addressing and Routing Mechanism in Computer Networks. *Application*



CSE 249-CO3: Describe the functionalities of Data Link Layer *Comprehension*

CSE 249-CO4: Explain the Basic Concepts of Data communication *Application*

65. Course Name: Computer network and Simulation

Course Code: CSE246

CSE246-CO1: Illustrate the Basic Concepts of Computer Networks *Application*

CSE246-CO2: Demonstrate the functionalities of Physical and Data Link Layer *Application*

CSE246-CO3: Apply the Knowledge of IP Addressing and Routing Mechanism in Computer Networks *Application*

CSE246-CO4: Demonstrate the working principles of Transport layer and Application Layer *Application*

66. Course Name: System Administration and IT Infrastructure

Course Code: CSE250

CSE250-CO1: Discuss the knowledge of different directory services and how a centralized system admin can support different parts of IT Infrastructure *Comprehension*

CSE250-CO2: Apply the concepts of system administration to live scenarios *Application*

CSE250-CO3: Understand the working of user Management and Directory management commands *Application*

CSE250-CO4: Demonstrate the knowledge of cloud infrastructure services *Application*

CSE250-CO5: Identify appropriate methods of system recovery and back-up *Knowledge*

67. Course Name: Semantic Web

Course Code: CSE266

CSE266-CO1: Explain the basics of Semantic Web and Social Networks *Comprehension*

CSE266-CO2: Describe Knowledge Representation for the RDF *Knowledge*

CSE266-CO3: Illustrate the role of ontology and inference engines in semantic web *Application*

CSE266-CO4: Demonstrate the applications of Semantic Web *Application*

68. Course Name: R programming for Data Science

Course Code: CSE3035

CSE3035 -CO1: Apply basic R functions pertaining to fundamental data analysis. *Application*

CSE3035 -CO2: Interpret data using appropriate statistical methods *Application*

CSE3035 -CO3: Demonstrate the decision trees concept with the given dataset. *Application*

CSE3035 -CO4: Demonstrate the Mining concepts for both Data and Text. *Application*



69. Course Name: Artificial Intelligence and Machine Learning

Course Code: CSE3001

CSE3001-CO2: Produce machine learning models for predictive analytics *Application*

CSE3001-CO3: Apply ensemble learning, optimization and hyper parameter tuning techniques for machine learning algorithms *Application*

CSE3001-CO4: Demonstrate different types of clustering techniques *Application*

CSE3001-CO5: Employ time series forecasting techniques/models for real world problems *Application*

70. Course Name: Blockchain Security and Performance

Course Code: CSE3028

CSE3028 -CO1: Comprehend security and performance perspective of blockchain technology. *Knowledge*

CSE3028 -CO2: Apply cryptographic techniques to enhance security in blockchain based systems *Application*

CSE3028 -CO3: Implement secure transaction models *Application*

CSE3028 -CO4: Apply security techniques to blockchain systems that provide solutions to some real world problems *Application*

71. Course Name: Computer Graphics

Course Code: CSE2066

CSE2066-CO1: Describe fundamentals of cloud computing, virtualization and cloud computing services *Knowledge*

CSE2066-CO2: Discuss high-throughput and data-intensive computing. *Comprehension*

CSE2066-CO3: Explain security and standards in cloud computing. *Comprehension*

CSE2066-CO4: Demonstrate the installation and configuration of virtual machine. *Application*

72. Course Name: Smart Contract and Solidity

Course Code: CSE3020

CSE3020 -CO1: Understand the fundamentals of computational Element of the Blockchain Technology *Knowledge*

CSE3020 -CO2: Implement user-defined operations of arbitrary complexity that are not possible through plain cryptocurrency protocols *Application*

CSE3020 -CO3: Exhibit best practices for designing solutions with smart contracts using Solidity and Remix IDE *Application*



73. Course Name: Web Technologies

Course Code: CSE2067

CSE2067-CO1: Describe the concept of web application terminologies and internet tools
Comprehension

CSE2067-CO2: Employ HTML tags and CSS features to develop a web site *Application*

CSE2067-CO3: Employ java-script and Ajax concepts to develop dynamic web site *Application*

CSE2067-CO4: Demonstrate database driven web application with server side script using PHP *Application*

74. Course Name: Automated Test Management

Course Code: CSE3043

CSE3043 -CO1: Understand the topics on Java and HTML for application in automated Testing *Knowledge*

CSE3043 -CO2: Understand the basics of automated testing and the requirement for automated testing *Comprehension*

CSE3043 -CO3: Learn to implement automated testing using tools like Selenium *Application*

CSE3043 -CO4: Learn to execute simple testing problems using TestNG and JUnit testing *Application*

75. Course Name: Big Data Technologies

Course Code: CSE3002

CSE3002 -CO1: Apply Map-Reduce programming on the given datasets to extract required insights *Application*

CSE3002 -CO2: Employ appropriate Hadoop Ecosystem tools such as scoop, Hbase, Hive, to perform data analytics for a given problem *Application*

CSE3002 -CO3: Use Spark tool to analyze the given dataset for a given problem *Application*

76. Course Name: Deep Learning Techniques

Course Code: CSE3010

CSE3010-CO1: Apply basic concepts of Deep Learning to develop feed forward models
Comprehension

CSE3010-CO2: Apply Supervised and Unsupervised Deep Learning techniques to build effective models for prediction or classification tasks *Application*

CSE3010-CO3: Identify the deep learning algorithms which are more appropriate for various types of learning tasks in various domains of Machine Learning and Machine vision
Application

CSE3010-CO4: Analyze performance of implemented Deep Neural models *Application*



77. Course Name: Fundamentals of Natural Language Processing

Course Code: CSE3014

CSE3014-CO1: Understand the fundamental concepts of Natural Language Processing
Knowledge

CSE3014-CO2: Read corpora and train models for different NLP tasks *Application*

CSE3014-CO3: Use word embeddings for solving an NLP Application *Application*

CSE3014-CO4: Understand sequence to sequence modeling as used in machine translation
Comprehension

78. Course Name: Information Security and Management

Course Code: CSE2060

CSE2060 -CO1: Describe the basic concept of information security *Knowledge*

CSE2060 -CO2: Explain the concepts of Logical Elements of Networks and Data Leakage
Comprehension

CSE2060 -CO3: Demonstrate the aspects of risk management *Application*

79. Course Name: Neural Network and Fuzzy Logic

Course Code: CSE3016

CSE3016-CO1: To understand the basic concept of fuzzy sets, fuzzy logic & defuzzification
Knowledge

CSE3016-CO2: To learn basics of Artificial Neural of theory and programming of
Microprocessors *Comprehension*

CSE3016-CO3: To analyze various techniques in feedback and feed forward Neural networks
Comprehension

CSE3016-CO4: To Understand the principle of competitive neural networks an Adaptive
resonance theory *Application*

80. Course Name: Optimization for Data science

Course Code: CSE3037

CSE3037-CO1: Define the concept of Neural Networks *Knowledge*

CSE3037-CO2: Define the ideas behind most common learning algorithms in Neural Network
Comprehension

CSE3037-CO3: Discuss the concepts of Fuzzy Sets and Relations *Comprehension*

CSE3037-CO4: Demonstrate the Fuzzy logic concepts and its applications *Application*

81. Course Name: Predictive Analytics

Course Code: CSE3036



CSE3036 -CO1: Define the nature of analytics and its applications *Knowledge*

CSE3036 -CO2: Discuss the concepts of predictive analytics and data mining *Comprehension*

CSE3036 -CO3: Compute the analytical tools in business scenarios to achieve competitive advantage *Application*

CSE3036 -CO4: Relate the real-world insights in decision trees and time series analysis methods in dynamic business environment *Application*

CSE3036 -CO5: Relate the real-world insights in decision trees and time series analysis methods in dynamic business environment *Comprehension*

82. Course Name: Social Media Analytics

Course Code: CSE3039

CSE3039 -CO1: Define the role of social media data and analytics in helping organizations achieve their goals *Knowledge*

CSE3039 -CO2: Identify the key performance indicators to accurately measure the success of social media efforts *Comprehension*

CSE3039 -CO3: Analyze social media data using native analytics e.g., Facebook, Twitter and social media *Application*

CSE3039 -CO4: Demonstrate meaningful insights with actionable and strategic recommendations based on thorough social media data analysis *Application*

83. Course Name: Streaming Data Analytics

Course Code: CSE3032

CSE3032-CO1: Recognize the characteristics of data streams that make it useful to solve real-world problems *Knowledge*

CSE3032-CO2: Apply appropriate algorithms for analyzing the data streams for a variety of problems *Application*

CSE3032-CO3: Implement different algorithms for analyzing the data streams *Application*

84. Course Name: Web Intelligence and Analytics

Course Code: CSE3031

CSE3031-CO1: Understanding of web intelligence and business analytics terminology *Application*

CSE3031-CO2: web intelligence to improve the outcomes of your marketing *Application*

CSE3031-CO3: Analysts impact the bottom line their role within various businesses and lines of business. *Application*

CSE3031-CO4: Demonstrate the Growth potentials for Web Analysts and Big Data professionals *Application*



85. Course Name: Machine Learning Techniques

Course Code: CSE3008

CSE3008-CO1: Describe fundamentals of Machine learning *Knowledge*

CSE3008-CO2: Explain Machine learning models *Comprehension*

CSE3008-CO3: Discuss Convex optimization models *Comprehension*

CSE3008-CO4: Apply Methods for convex optimization *Application*

86. Course Name: Big Data Security and Privacy

Course Code: CSE3034

CSE3034-CO1: Define cryptographic principles and mechanisms to manage access controls in Big Data system *Knowledge*

CSE3034-CO2: Explain security risks and challenges for Big Data system *Knowledge*

CSE3034-CO3: Recognize all security related issues in big data systems *Comprehension*

CSE3034-CO4: Apply Kerberos configuration for Hadoop ecosystem components *Application*

87. Course Name: Distributed Ledger Technology

Course Code: CSE3023

CSE3023 -CO1: Understand and explore the working of distributed ledger technology *Knowledge*

CSE3023 -CO2: Understand the working of Smart Contracts *Knowledge*

CSE3023 -CO3: Apply the learning of solidity and de-centralized apps on Ethereum *Application*

88. Course Name: Computer Graphics

Course Code: CSE2066

CSE2066-CO1: Apply mathematical expressions for drawing basic primitives like Point, Line and Polygon *Application*

CSE2066-CO2: Illustrate 2D Geometric Transformations, viewing and clipping . *Application*

CSE2066-CO3: Illustrate 3D Geometric Transformations, viewing and clipping *Comprehension*

CSE2066-CO4: Describe planes, Bezier curves and Bezier surfaces *Knowledge*

89. Course Name: Web Technologies

Course Code: CSE2067

CSE2067-CO1: Implement web-based application using client-side scripting languages *Application*



90. Course Name: Web Technologies

Course Code: CSE2068

CSE2068-CO2: Apply various constructs to enhance the appearance of a website *Application*

91. Course Name: Web Technologies

Course Code: CSE2069

CSE2069-CO3: Illustrate java-script concepts to demonstration dynamic web site *Application*

92. Course Name: Web Technologies

Course Code: CSE2070

CSE2070-CO4: Apply server-side scripting languages to develop a web page linked to a database *Application*

93. Course Name: Artificial Intelligence and Machine Learning

Course Code: CSE3001

CSE3001-CO1: To develop a basic understanding of the building blocks of AI as presented in terms of intelligent agents *Comprehension*

CSE3001-CO2: Produce machine learning models for predictive analytics *Application*

CSE3001-CO3: Apply ensemble learning, optimization and hyper parameter tuning techniques for machine learning algorithms *Application*

CSE3001-CO4: Demonstrate different types of clustering techniques *Application*

CSE3001-CO5: Employ time series forecasting techniques/models for real world problems *Application*

94. Course Name: Big Data Technologies

Course Code: CSE3002

CSE3002-CO1: Apply Map-Reduce programming on the given datasets to extract required insights *Application*

CSE3002-CO2: Employ appropriate Hadoop Ecosystem tools such as scoop, Hbase, Hive, to perform data analytics for a given problem *Application*

CSE3002-CO3: Use Spark tool to analyze the given dataset for a given problem *Application*

95. Course Name: Neural Networks and Fuzzy Logic

Course Code: CSE3006



- CSE3006-CO1: Apply techniques of Knowledge Representation *Application*
CSE3006-CO2: Apply Artificial Intelligence techniques for problem solving *Application*
CSE3006-CO3: Understand the models of Neuron *Knowledge*
CSE3006-CO4: Explain the basic elements of Artificial Neural Network *Comprehension*

96. Course Name: Agile Structures and Frame Works

Course Code: CSE3040

- CSE3040-CO1: Understand the basic concepts of Agile Software Process *Knowledge*
CSE3040-CO2: Describe Agile Software Process *Knowledge*
CSE3040-CO3: Comprehend the various Agile Methodologies. *Comprehension*
CSE3040-CO4: Apply appropriate Agile Technology tools *Application*

97. Course Name: Devops Tools Internals

Course Code: CSE3046

- CSE3046-CO1: Apply the features and common Git workflow *Application*
CSE3046-CO2: Practice the Docker container and Saving Changes To A Docker Container *Application*
CSE3046-CO3: Practice the filters and plugins to populate, manipulate, and manage data used by Ansible Playbooks *Application*
CSE3046-CO4: Interpret the installation and features of Jenkins and build jobs *Application*

98. Course Name: Cryptography and Network Security

Course Code: CSE3078

- CSE3078-CO1: Describe the basic concept of Cryptography *Knowledge*
CSE3078-CO2: Classify different types of Cryptographic Algorithms *Comprehension*
CSE3078-CO3: Solve Mathematical problems required for Cryptography *Application*
CSE3078-CO4: Illustrate Network Security concepts *Knowledge*

99. Course Name: Service-Oriented Architecture

Course Code: CSE3125

- CSE3125-CO1: Discuss the XML Fundamentals and to manipulate the data using XML *Comprehension*
CSE3125-CO2: Define the key principles of SOA *Knowledge*
CSE3125-CO3: Discuss the web services technology elements for realizing SOA *Comprehension*
CSE3125-CO4: Illustrate the various Web Service Standards *Application*



100. Course Name: Introduction to Bioinformatics

Course Code: CSE3069

CSE3069-CO1: Understand the DNA Protein sequence and structures *Knowledge*

CSE3069-CO2: Explain the file formats and sequence alignments of DNA sequence
Comprehension

CSE3069-CO3: Apply the techniques of the motifs discovery for the analysis of Protein Sequence
Application

101. Course Name: Compiler Design

Course Code: CSE217

CSE217-CO1: Explain the various phases of compiler *Comprehension*

CSE217-CO2: Construct front end of the compiler *Application*

CSE217-CO3: Apply suitable data structure to improve efficiency of compiler *Application*

CSE217-CO4: Generate Intermediate code for the given statements *Comprehension*

102. Course Name: Human Computer Interaction

Course Code: CSE218

CSE218-CO1: Identify the factors influencing user interfaces *Knowledge*

CSE218-CO2: Apply guidelines, principles, theories and methodologies for designing interfaces
Application

CSE218-CO3: Select user interfaces based on interface design evaluation *Comprehension*

CSE218-CO4: Identify the applications of emerging fields in human computer interaction
Comprehension

103. Course Name: Big Data Analytics

Course Code: CSE219

CSE219-CO1: Describe the fundamental concepts of big data analytics *Knowledge*

CSE219-CO2: Apply Map-Reduce programming on the given datasets to extract required insights
Application

CSE219-CO3: Employ appropriate Hadoop Ecosystem tools such as Hive, Hbase to perform data analytics for a given problem
Application

CSE219-CO4: Use Spark and nosql tool to analyse the given dataset for a given problem
Application

104. Course Name: Internet of Things

Course Code: CSE220



CSE220-CO1: Describe building blocks of Internet of Things and characteristics *Knowledge*

CSE220-CO2: Discuss appropriately IoT Protocols *Comprehension*

CSE220-CO3: Demonstrate uses of IoT devices for application *Application*

105. Course Name: Datacommunications and Computer Networks

Course Code: CSE2011

CSE2011-CO1: Explain the concepts of Computer Networks and Working Principles of Application Layer and Transport Layer *Comprehension*

CSE2011-CO2: Apply the Knowledge of IP Addressing and Routing Mechanism in Computer Networks *Application*

CSE2011-CO3: Describe the functionalities of Data Link Layer *Comprehension*

CSE2011-CO4: Explain the Basic Concepts of Data communication *Comprehension*

106. Course Name: System Provisioning and Configuration Management

Course Code: CSE3052

CSE3052-CO1: Understand provisioning on Cloud *Comprehension*

CSE3052-CO2: Learn automation, preventing errors, tracking of changes *Comprehension*

CSE3052-CO3: Understand configuration management *Comprehension*

CSE3052-CO4: Implement the Configuration and Management on Cloud Service Platform *Comprehension*

107. Course Name: DE-VI-Dot Net Full Stack Development

Course Code: CSE3152

CSE3152-CO1: Practice the use of C# for developing a small application *Application*

CSE3152-CO2: Demonstrate web applications using Entity Framework *Application*

CSE3152-CO3: Solve simple web applications that use SQL and ASP.NET *Application*

CSE3152-CO4: Apply concepts of ASP.NET to develop a Full Stack application *Application*

108. Course Name: Object Oriented Analysis and Design

Course Code: CSE3082

CSE3082-CO1: Describe the basics of object-oriented system development *Knowledge*

CSE3082-CO2: Identify the various techniques for object-oriented analysis techniques *Comprehension*

CSE3082-CO3: Apply the design axioms to create appropriate UML diagrams. *Application*

CSE3082-CO4: Apply the design process to develop implementation models. *Application*



109. Course Name: DE-VII-Parallel Computing

Course Code: CSE3079

CSE3079 -CO1: Study the scalability and clustering issues and the technology necessary for them *Knowledge*

CSE3079 -CO2: Understand the technologies enabling parallel computing *Comprehension*

CSE3079 -CO3: Practice the different types of interconnection networks *Application*

CSE3079 -CO4: Demonstrate the software support needed for shared memory programming *Application*

110. Course Name: Advanced Java Programming

Course Code: CSE3146

CSE3146-CO1: Explain the benefits of Design-Pattern & SOLID principle in java based applications *Comprehension*

CSE3146-CO2: Understand Concurrent Programming using Java Multi-Threading *Comprehension*

CSE3146-CO3: Apply Communication mechanisms of Java with DBMS *Application*

CSE3146-CO4: Implement Web MVC application using Servlet and JSP Technology *Application*

CSE3146-CO5: Test JPA Implementation using Hibernate *Application*



School of Information Science

1. Course Name: Artificial Intelligence

Course Code: BCA212

BCA212 -CO1: Explain the basic concepts of Artificial Intelligence and application of AI in several domains such as business and governance domains. *Comprehension*

BCA212 -CO2: Demonstrate knowledge of reasoning and knowledge representation for solving real world problems *Application*

BCA212 -CO3: Analyze and illustrate how informed and uninformed search algorithms play vital role in problem solving. *Application*

BCA212 -CO4: Explain learning probabilistic reasoning in AI. *Comprehension*

BCA212 -CO5: Explain simple and complex decision making in AI. *Comprehension*

2. Course Name: Cloud Computing

Course Code: BCA213

BCA213 -CO1: Describe the fundamentals of cloud computing *Knowledge*

BCA213 -CO2: Discuss the virtualization Concepts. *Comprehension*

BCA213 -CO3: Explain the use of cloud computing mechanisms used to monitor the usage of services. *Comprehension*

BCA213 -CO4: Demonstrate the installation and configuration of virtual machine. *Application*

3. Course Name: Mobile Applications Development

Course Code: BCA214

BCA214 -CO1: Discuss the fundamentals of mobile application development and its architecture. *Comprehension*

BCA214 -CO2: Illustrate mobile applications with appropriate android view. *Application*

BCA214 -CO3: Demonstrate the use of services, broadcast receiver, Notifications and content provider. *Application*

BCA214 -CO4: Use data persistence techniques for CRUD operations, multimedia and Internet services for mobile applications. *Application*

4. Course Name: Animation and Shaders

Course Code: BCA221

BCA221 -CO1: Explain the basic blender tools for creating model *Comprehension*

BCA221 -CO2: Apply the shade for the objects *Application*

BCA221 -CO3: Produce a basic car animation. *Application*



5. Course Name: Character Modeling and Rigging

Course Code: BCA222

BCA222 -CO1: Explain the basic blender tools for creating model *Comprehension*

BCA222 -CO2: Produce the 3D Character for game or animation movie *Application*

BCA222 -CO3: Produce an original design for a 3D character with rigging. *Application*

6. Course Name: 3D Game Engine

Course Code: BCA260

BCA260 -CO1: Recognize Process of Game Design *Comprehension*

BCA260 -CO2: Manipulate the Game Environment using Assets *Application*

BCA260 -CO3: Produce Animation for the 3D Game *Application*

BCA260 -CO4: Demonstrate the Complete Game with UI *Application*

7. Course Name: Virtual Reality Development

Course Code: BCA261

BCA261 -CO1: Describe how VR systems work and list the applications of VR. *Knowledge*

BCA261 -CO2: Understand the design and implementation of the hardware that enables VR systems to be built. *Comprehension*

BCA261 -CO3: Demonstrate the system of human vision and its implication on perception and rendering. *Application*

BCA261 -CO4: Illustrate the concepts of motion and tracking in VR systems. *Application*

8. Course Name: Cloud Storage and Applications

Course Code: BCA3048

BCA3048-CO1: Explain the basic concepts along with deployment models in Cloud computing *Knowledge*

BCA3048-CO2: Identify best storage virtualization technology and techniques *Comprehension*

BCA3048-CO3: Identify appropriate cloud storage service providers and security management *Knowledge*

BCA3048-CO4: Understand cloud-based application on healthcare, Geoscience and business *Comprehension*

9. Course Name: UI/UX Design

Course Code: BCA316

BCA316-CO1: Explain the UX Design principles *Comprehension*



BCA316-CO2: Design wireframes using digital tools *Comprehension*

BCA316-CO3: Create prototypes using Figma *Application*

BCA316-CO4: Describe project management and design portfolio *Application*

10. **Course Name:** Advanced Web Design

Course Code: BCA317

BCA317-CO1: Construct and visually format tables and forms using HTML and CSS *Comprehension*

BCA317-CO2: Develop Client-Side Scripts using JavaScript *Application*

BCA317-CO3: Apply the AJAX interfaces to upload data to a back-end web server, and to asynchronously retrieve and display responses *Application*

BCA317-CO4: Setup Node.js using NPM and use Node.js core modules *Application*

BCA317-CO5: Design responsive web using bootstrap *Application*

11. **Course Name:** Object Oriented Programming using Java

Course Code: CSA1005

CSA1005-CO1: Summarize the Object-oriented concepts with example program *Comprehension*

CSA1005-CO2: Apply the concept of polymorphism & inheritance to solve real time problems. *Application*

CSA1005-CO3: Illustrate programs on Interface, Package and Exception handling. *Application*

CSA1005-CO4: Demonstrate multi-threading concept in Java Applications *Application*

CSA1005-CO5: Apply abstract window toolkit to design engineering applications *Application*

12. **Course Name:** Operating Systems and Unix Programming

Course Code: CSA1006

CSA1006-CO1: Describe the fundamental concepts of operating Systems *Knowledge*

CSA1006-CO1: Describe the IPC and Deadlocks with methodologies *Knowledge*

CSA1006-CO1: Understand the Memory Management and Allocation concepts. *Comprehension*

CSA1006-CO1: Construct Virtual Memory and File Management with CPU scheduling algorithms *Application*

13. **Course Name:** Introduction to 3D Animation

Course Code: CSA1011

CSA1011-CO1: Apply the fundamental 3D Modeling and Animation *Knowledge*

CSA1011-CO2: Implement the Production with various Modeling Techniques *Comprehension*



CSA1011-CO3: Create 3 D Animation with Edit key frame animation within the graph editor
Application

CSA1011-CO4: Generate animations with simple objects, characters rigs and cycled animations
Application

14. **Course Name:** Relational Database Management Systems

Course Code: CSA2003

CSA2003-CO1: Understand the basic concepts of database and ER modeling in designing the database.
Knowledge

CSA2003-CO2: Apply Relational Algebra and Database Querying concepts in designing the database.
Application

CSA2003-CO3: Analyze various normalization techniques for designing a robust database.
Application

CSA2003-CO4: Understand the Transaction control and concurrency control mechanisms
Comprehension

15. **Course Name:** Computer Networks

Course Code: CSA2004

CSA2004-CO1: Describe the basic concepts of computer networks and reference models
Knowledge

CSA2004-CO2: Describe the physical and data link layer functionalities
Comprehension

CSA2004-CO3: Apply the knowledge of IP addressing and routing mechanisms to connect to a computer network.
Application

CSA2004-CO4: Explain the functionalities of the transport layer and application layer
Comprehension

16. **Course Name:** Analysis of Algorithms

Course Code: CSA2005

CSA2005-CO1: Identify the efficiency of a given algorithm.
Comprehension

CSA2005-CO2: Employ divide and conquer approach to solve a problem.
Application

CSA2005-CO3: Illustrate dynamic programming approach to solve a given problem.
Application

CSA2005-CO4: Solve a problem using the greedy method.
Application

CSA2005-CO5: Discuss the techniques to solve a real-world problem based on its complexity classes.
Comprehension

17. **Course Name:** Game Mechanics and dynamics

Course Code: CSA2013



CSA2013-CO1: Recognize the mechanics behind games *Comprehension*

CSA2013-CO2: Discuss resource mechanics economies of digital games *Comprehension*

CSA2013-CO3: Modify mechanics concepts in digital games *Application*

18. Course Name: R Programming for Datascience

Course Code: CSA2019

CSA2019-CO1: Apply basic R functions pertaining to fundamental data analysis. *Application*

CSA2019-CO1: Interpret data using appropriate statistical methods *Application*

CSA2019-CO2: Demonstrate the decision trees concept with the given dataset. *Application*

CSA2019-CO3: Demonstrate the Mining concepts for both Data and Text. *Application*

19. Course Name: Artificial Intelligence

Course Code: CSA2020

CSA2020-CO1: Define the basic of local search algorithms, various optimization techniques for a given AI algorithm. *Knowledge*

CSA2020-CO2: Identify the smart intelligent way to represent the knowledge Engineering. *Knowledge*

CSA2020-CO3: Illustrates the key aspects of planning models of artificial intelligence. *Comprehension*

CSA2020-CO4: Understand the expert based intelligent system. *Application*

20. Course Name: UI/UX Design

Course Code: CSA3009

CSA3009-CO1: Explain the UX Design principles *Comprehension*

CSA3009-CO2: Identify the ideal user experience *Comprehension*

CSA3009-CO3: Design wireframes using digital tools *Application*

21. Course Name: Problem Solving using C

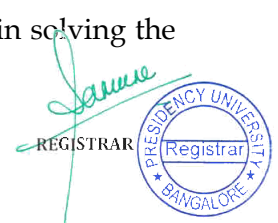
Course Code: CSA1001

CSA1001-CO1: Identify the solution to the problem through programming *Knowledge*

CSA1001-CO2: Apply the basic concepts and control structures of programming to solve the problem *Application*

CSA1001-CO3: Interpret the concepts of array and strings to represent data and its operations *Application*

CSA1001-CO4: Demonstrate the concepts of functions, structures and unions in solving the related scenarios *Application*



22. Course Name: Web Design and Development

Course Code: CSA1002

CSA1002-CO1: Describe the semantics and syntax of HTML and CSS *Knowledge*

CSA1002-CO2: Demonstrate various client side scripting and web pages using HTML, CSS and Java script *Application*

CSA1002-CO3: Discuss the PHP language and use them while applying the principles of object oriented development *Comprehension*

23. Course Name: Fundamentals of Data Science

Course Code: CSA1003

CSA1003-CO1: Illustrate concepts of Data Science *Comprehension*

CSA1003-CO2: Demonstrate Data preprocessing and visualization techniques *Application*

CSA1003-CO3: Apply different Data analysis techniques with Excel Spreadsheet *Application*

CSA1003-CO4: Identify the role of ML and Domain Expertise in Data Science *Comprehension*

24. Course Name: Preproduction Techniques

Course Code: CSA1009

CSA1009-CO1: Define foundation of drawing and Sketching *Knowledge*

CSA1009-CO2: Classify Game Assets using Digital tools *Comprehension*

CSA1009-CO3: Discuss digital prototypes of Characters, backgrounds and Properties *Comprehension*

CSA1009-CO4: Apply Game Art Concepts and Levels using Digital tools *Application*

CSA1009-CO5: Compute requirements and prepare for a specific media production *Application*

25. Course Name: Elements of Computing Systems

Course Code: CSA1013

CSA1013-CO1: Relate different number system representations used in computing devices *Knowledge*

CSA1013-CO2: Discuss different logic gates and their behavior *Comprehension*

CSA1013-CO3: Discuss different parts of computer and their organization *Comprehension*

CSA1013-CO4: Describe Operating system and its functionality *Comprehension*

26. Course Name: Introduction to Game Design

Course Code: CSA1008



CSA1008-CO1: Discuss the overview of how games are designed *Comprehension*

CSA1008-CO2: Illustrate the various aspects of Game Mechanics are used to induce game balance *Application*

CSA1008-CO3: Identify the methods to design characters and game worlds *Comprehension*

CSA1008-CO4: Prepare a game design document for building a simple game *Application*

27. **Course Name:** Introduction to Immersive Technologies

Course Code: CSA1010

CSA1010-CO1: Describe the fundamental concepts of Augmented Reality and Virtual Reality *Knowledge*

CSA1010-CO2: Explain different display and tracking techniques *Comprehension*

CSA1010-CO3: Discuss various modelling techniques *Comprehension*

CSA1010-CO4: Demonstrate various Perception Models and Processes *Comprehension*

CSA1010-CO5: Explain the core concept of Metaverse *Knowledge*

28. **Course Name:** Introduction to Game Engine

Course Code: BCA299

BCA299-CO1: Recognize Game Design Process and its Importance *Knowledge*

BCA299-CO2: Identify the UI of Unity Game Engine and its Work Flow *Application*

BCA299-CO3: Illustrate Object Behavioural scripts using C# and the Unity API *Application*

BCA299-CO4: Demonstrate 3D game using Unity Game Engine *Application*



School of Law

1. Course Name: Public Administration: Core Concepts

Course Code: BAL103

BAL103-CO1: Explain the nature and scope of Public Administration *comprehension*

BAL103-CO2: Identify basic concepts and principles of public administration *comprehension*

BAL103-CO3: Analyze the theories of public administration *analysis*

BAL103-CO4: Examine the emerging trends in public administration *analysis*

2. Course Name: Indian Economy

Course Code: BAL203

BAL203-CO1: Distinguish between the economic growth and economic development.
Knowledge

BAL203-CO2: Understand the sectoral features and structure of Indian economy e.g. agriculture, industry and service sectors. *Analysis*

BAL203-CO3: Demonstrate the importance of agriculture sector and agricultural policies, finance and concept of green revolution and its implication on the food security of India
Analysis

BAL203-CO4: Interpret the role of industrial and service sectors and its policies. *Analysis*

BAL203-CO5: Explain the structure of planning, objectives of 12th five year plan of India and India's economic problems like poverty, unemployment, inequality etc. *Analysis*

BAL203-CO6: Illustrate the Human Development Index HDI and India's rank in the world HDI index, can also understand the role of GATT and WTO with special reference to India.
Analysis

3. Course Name: Sociology of India

Course Code: BAL205

BAL205-CO1: To discuss concepts of social change and transformation *comprehension*

BAL205-CO2: To explain socio-legal issues concerning religion, regionalism and language
comprehension

BAL205-CO3: To describe sociological debates on gender and children *comprehension*

BAL205-CO4: To discuss influence of modernisation on law and Indian society *analysis*

4. Course Name: Constitutional Law-II

Course Code: LAW113

LAW113-CO1: Explain the nature of the federal polity and the various powers and limitations imposed on the Executive wing of the union and state. *Comprehension*



LAW113-CO2: Express the various essential qualifications and limitations of the power of the Legislative wing of Union and State *Comprehension*

LAW113-CO3: Identify the various powers and jurisdictions of the Union and State Judicial system. *Comprehension*

LAW113-CO4: Recognize the various issues that may arise in the Centre-State relations through the established norms and precedents *Comprehension*

LAW113-CO5: Analyse the powers of the government in declaring an emergency and amending the Constitution *Analysis*

5. Course Name: Family Law-I

Course Code: LAW107

LAW107-CO1: Understand the historical perspective of the Hindu Law & Sharia Law. *Comprehensive*

LAW107-CO2: Identify the principles of Hindu Law & Sharia Law in matters of marriage *Comprehensive*

LAW107-CO3: Enhance their understanding on the current laws on divorce, maintenance and dower *Application*

LAW107-CO4: Interpret various judicial interpretations about Marriage & Divorce under Hindu & Muslim Law. *Analysis*

LAW107-CO5: Application of the legal provisions and precedents to hypothetical problems relating to Hindu Law & Muslim Law *Analysis*

6. Course Name: Fundamentals of Client Counselling

Course Code: LAW209

LAW209-CO1: Learn the nature of the attorney-client relationship, including the respective roles of attorney and client in identifying the problem, assessing considerations, and decision-making *Comprehension*

LAW209-CO2: Understanding and accepting the client's values and objectives, and working out an appropriate relationship between the client and the attorney. *Comprehension*

LAW209-CO3: Being provided with the skills of self-reflection and learning from experience, the student will reflect rigorously on their own lawyering performances. *Application*

LAW209-CO4: Have the ability to learn from successes and failures, and thereby to engage in continuous learning *Application*

7. Course Name: Law of Torts and Consumer Protection Act

Course Code: LAW105

LAW105-CO1: Describe the foundational principles of Law of Torts. *Knowledge*

LAW105-CO2: Recognize the concept and kinds of liabilities in Torts *Comprehension*

LAW105-CO3: Identify the nature of Negligence, Nuisance and nervous Shock *Comprehension*



LAW105-CO4: Discuss the various kinds of Torts against the person and property *Application*

LAW105-CO5: Explain the working of COPRA and MVA. *Application*

LAW105-CO6: Reflect critically on the role of the law of tort in the civil justice system and Indian society more generally *Application*

8. Course Name: Principle of Management

Course Code: BBL101

BBL101-CO1: Define basic concepts of Management. *Knowledge*

BBL101-CO2: Describe what is planning process and how decision to be made *Knowledge*

BBL101-CO3: Distinguish between different organization structures *Comprehension*

BBL101-CO4: Discuss different leadership style *Application*

BBL101-CO5: Interpret different types of control proces *Knowledge*

9. Course Name: Macroeconomics

Course Code: BAL202

BAL202-CO1: Understand Economic theories to impart knowledge. *Knowledge*

BAL202-CO2: Explain the role of the Utility and Surplus value in economics *Comprehensive*

BAL202-CO3: Examine the demand and Supply phenomenon in macro-economics. *Comprehensive*

BAL202-CO4: Evaluate the role of market in welfare of the society *Application*

10. Course Name: Special Contracts

Course Code: LAW104

LAW104-CO1: Define the context and rational of specific contracts of Indemnity & Guarantee. *Comprehensive*

LAW104-CO2: Determine the usage of principles and the rights of the parties under Bailment & Pledge *Comprehensive*

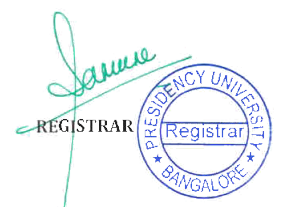
LAW104-CO3: Identify the relation of contract of agency with our day to day commercial activities and their impact on social & economic front. *Application*

LAW104-CO4: Identify the relevant legal issues involved in Sale of Goods Act and its applicability. *Application*

LAW104-CO5: Apply the relevant principles, legal provisions and the case laws in Partnership Act to the legal issues in contractual dealings and construct a coherent and effective argument for dispute resolution. *Application*

11. Course Name: Law of Torts and MV Act

Course Code: LAW106



- LAW106-CO1:** Describe the foundational principles of Law of Torts. *Knowledge*
- LAW106-CO2:** Recognize the concept and kinds of liabilities in Torts *Comprehension*
- LAW106-CO3:** Identify the nature of Negligence, Nuisance and nervous Shock *Analysis*
- LAW106-CO4:** Discuss the various kinds of Torts against the person and property *Comprehension*
- LAW106-CO5:** Explain the working of COPRA and MVA. *Comprehension*

12. Course Name: Constitutional Law-I

Course Code: LAW112

- LAW112-CO1:** State the evolution of Constitutional law in the existing form *Knowledge*
- LAW112-CO2:** Describe fundamental rights enumerated in Part III of the Constitution of India *Comprehension*
- LAW112-CO3:** Outline articles related to the fundamental right of freedom *Comprehension*
- LAW112-CO4:** Discuss Judicial activism, Writs and PIL *Comprehension*
- LAW112-CO5:** Explain Directive principles of State policy and fundamental duties *Application*

13. Course Name: Cost Accounting

Course Code: BCL102

- BCL102-CO1:** Identify distinguish various types of costs involved in manufacturing a product *Comprehension*
- BCL102-CO2:** Summarize the preparation of Cost sheet quotation *Knowledge*
- BCL102-CO3:** Outline various costing methods *Knowledge*
- BCL102-CO4:** Summarize Practical applicability of Contract price determination *Knowledge*
- BCL102-CO5:** Outline various trends in Cost Control Techniques *Comprehension*

14. Course Name: Political Science

Course Code: BAL101

- BAL101-CO1:** To Understand the concepts of Sovereignty and State *Comprehension*
- BAL101-CO2:** To Analyze the Ancient and Medieval Political Theories *Analysis*
- BAL101-CO3:** To Learn the Modern Political Theories *Knowledge*
- BAL101-CO4:** To Evaluate the Rights and Duties *Analysis*
- BAL101-CO5:** To acquaint with Different forms of Governments that exist in Modern World *Comprehension*

15. Course Name: Quantitative Techniques

Course Code: BBL301



BBL301-CO1: Explain the basics of quantitative techniques being used in the business practices *Comprehension*

BBL301-CO2: Apply the basic statistical tools to solve real life problems. *Comprehension*

BBL301-CO3: Solve basic mathematics problems related to set theory, matrices and functions. *Application*

BBL301-CO4: Discuss the basics and applications of probability theory. *Application*

16. Course Name: Financial Accounting

Course Code: BCL101

BCL101-CO1: Appreciate the importance of financial accounting and the application of GAAP in accounting. *Comprehension*

BCL101-CO2: Understand the concepts of revenue, expense, assets, liabilities and capital and the formation of accounting equation *Comprehension*

BCL101-CO3: Journalizing, posting in Ledger, Trial Balance, Adjusting Entries *Comprehension*

BCL101-CO4: The accounting cycle – Final Accounts & Preparation of P/L A/C and Balance Sheet *Comprehension*

BCL101-CO5: Financial Statement Analysis – Income Statement & Balance Sheet *Comprehension*

17. Course Name: State and Political Obligation

Course Code: BAL102

BAL102-CO1: Describe nature and function of State and its relevance for law *comprehension*

BAL102-CO2: Identify various approaches to study State and Political obligation in relation to law and its practices. *comprehension*

BAL102-CO3: Analyze concepts and theories of obligation and its implications for law. *Analysis*

BAL102-CO4: Assess different facets of political obligation and its contribution towards legal profession. *Analysis*

BAL102-CO5: Discuss the contemporary debates on State and Political obligation and its utility in law *comprehension*

18. Course Name: Microeconomics

Course Code: BAL201

BAL201-CO1: To acquaint the students with micro economic variables such as individual firms, markets etc *Comprehension*

BAL201-CO2: To help the students to analyse the various aspects of Demand Theory *Comprehension*

BAL201-CO3: To equip the students with knowledge about Theory of Production *Comprehension*



BAL201-CO4: To help the students to understand the theories of Product Pricing.
Comprehension

BAL201-CO5: To help the students to realise the theories of Factor Pricing *Comprehension*

19. Course Name: Indian Penal Code

Course Code: LAW110

LAW110-CO1: 1. Understand the fundamentals of Substantive Criminal Law prevalent in the country with special reference to Indian Penal Code. *Comprehensive*

LAW110-CO2: 1. Conceptualise the use of General defences as an exception in Law of Crimes. *Comprehensive*

LAW110-CO3: 1. Outline the offences against Human Body and the grave punishments enumerated in the code. *Analysis*

LAW110-CO4: Analyze the components of criminal wrongs against property and public tranquillity. *Analysis*

LAW110-CO5: Identify the offence against State and Public safety. *Analysis*

20. Course Name: Property Law

Course Code: LAW114

LAW114-CO1: Analyze the concept, and nature of transfer of immovable property, and illustrate the different types of transfers and rules relating to it. *Knowledge*

LAW114-CO2: Evaluate the rules governing Sales, Mortgages, Leases, Exchanges, Gift and Actionable Claims rights and liabilities of transferor and transferee *Application*

LAW114-CO3: Apply the specific methods of transfer of property and easements *Application*

LAW114-CO4: Interpret the rules relating concept of easement and kinds of easement and rights and liabilities of transferor and transferee. *Knowledge*

LAW114-CO5: Explain the creation and other related aspects regarding Trusts *Comprehension*

LAW114-CO6: Describe the concept of Equity with its varied specifications. *Application*

21. Course Name: Civil Procedure Code and Limitation Act

Course Code: LAW116

LAW116-CO1: Explain correct legal terminologies used in civil suits and jurisdiction of civil courts. *Knowledge*

LAW116-CO2: CO 2Apply rules of pleadings and hearing in civil matter. *Comprehensive*

LAW116-CO3: CO 3Interpret procedure of appeal, review, revisions and execution related to civil courts. *Comprehensive*

LAW116-CO4: CO 4Analyze suit of special nature *Comprehensive*

LAW116-CO5: CO 5Employ the provisions of Limitation Act appropriately in civil matters. *Comprehensive*



22. Course Name: Company Law-I

Course Code: LAW118

LAW118-CO1: Apply the sections of Company Act, 2013 in Corporate Litigation *Knowledge*

LAW118-CO2: Analyze the foundational principles of Indian corporate law, undertake legal research with primary and secondary materials, and evaluate legal information *Comprehension*

LAW118-CO3: Acquire problem recognition and problem identification skills necessary in the modern business environment as well as for the more advanced commercial law papers *Comprehension*

LAW118-CO4: Understand the significant trends and recurring issues in company law *Application*

23. Course Name: Company Law-I

Course Code: LAW119

LAW119-CO5: Analyze the reconstruction, amalgamation and winding up of the Company *Analysis*

24. Course Name: Company Law-I

Course Code: LAW120

LAW120-CO6: Understand the Contemporary Issues *Comprehension*

25. Course Name: Mediation

Course Code: LAW204

LAW204-CO1: 1. Understand and identify when and how to refer parties to outside resources. *Comprehension*

LAW204-CO2: 1. Apply skills, procedures, techniques, and characteristics needed to engage in the various forms of alternative dispute resolution with reference to mediation. *Comprehension*

LAW204-CO3: Understanding of communication skills and skills of engagement *Comprehension*

LAW204-CO4: 1. Understanding of the emotional and practical impact of family separation, transition and change including their relationship with processes related to separation, loss and bereavement *Comprehension*

LAW204-CO5: 1. Understanding of the needs of children and of child development theory in relation to family separation and transition. *Comprehension*

26. Course Name: Constitutional History of India

Course Code: LAW601



LAW601-CO1: Describe the evolution of colonial legislations in pre-independent India.
Knowledge

LAW601-CO2: Identify and summarise the differences in each of the pre-constitutional documents that performed a constitution-like role. *Knowledge*

LAW601-CO3: Compare the pre-constitutional Charters, Indian Councils Acts, and Government of India Act, with the Constitution of India. *Comprehension*

LAW601-CO4: Analyse the impact of the various pre-constitutional Charters, Acts, and ideologies on the Constitution of India. *comprehension*

27. Course Name: International Politics

Course Code: BAL105

BAL105-CO1: Understand the theories of international politics *Knowledge*

BAL105-CO2: Describe world system using concept of balance of power and hegemony
Comprehension

BAL105-CO3: Evaluate the impact of Cold War and post-Cold War developments on international relations *Application*

BAL105-CO4: Examine the concepts of national power, national interest and collective security *Analysis*

28. Course Name: Human Resource Management

Course Code: BBL103

BBL103-CO1: Recognize the basic concepts of Accounting. *Knowledge*

BBL103-CO2: Discuss the meaning and objectives of internal check & internal control
Comprehension

BBL103-CO3: Explain the Importance of audit programme *Application*

BBL103-CO4: Show the procedure of appointment and removal of auditor. *Comprehension*

BBL103-CO5: Summarize the powers, duties and liabilities of Auditors along with EDP audit.
Comprehension

29. Course Name: Marketing Management

Course Code: BBL104

BBL104-CO1: Describe the basic concepts of marketing *Knowledge*

BBL104-CO2: Explain the concepts of consumer behavior to choose the relevant STP strategy
Comprehension

BBL104-CO3: Apply the concepts of Product Mix in Marketing Decision Making
Comprehension

BBL104-CO4: Indicate the appropriate Pricing and Distribution strategy for a given marketing situation. *Comprehension*

BBL104-CO5: Discuss various tools employed as part of Promotion strategy. *Comprehension*



30. Course Name: Banking and Insurance

Course Code: BCL104

BCL104-CO1: Explain the definition, objectives, evolution of Banking and types of Bank
Knowledge

BCL104-CO2: Understand the concepts and regulations of Banking & insurance
Comprehension

BCL104-CO3: Appreciate the importance of banking and insurance in modern era
Comprehension

BCL104-CO4: Comprehend the recent developments in banking industry *Comprehension*

BCL104-CO5: Examine the kind of relationship this exists between bank and customer
Application

BCL104-CO6: Enlisting the difference between Life Insurance and Non-Life Insurance
Application

31. Course Name: Law of Evidence

Course Code: LAW115

LAW115-CO1: Explain the importance of evidence and relevancy of facts
Comprehension

LAW115-CO2: Discuss the important concepts related with admissions and confessions.
Comprehension

LAW115-CO3: Interpret the principles involved in considering oral and documentary evidence.
Comprehension

LAW115-CO4: 4 Discuss the concept of burden of proof and shifting of burden of proof.
Application

LAW115-CO5: 5 Examine the procedural aspects involved in examination and cross-examination of witness.
Comprehension

32. Course Name: Principles of Taxation

Course Code: LAW121

LAW121-CO1: Analyze the concept of income Tax and the Constitutional power of Taxation.
Comprehension

LAW121-CO2: Examine the Heads of Income and Computation *Comprehension*

LAW121-CO3: Analyze the provisions relating to Assessment. *Analysis*

LAW121-CO4: Examine the provisions enacted in laws related to Taxation. *Application*



33. Course Name: Environmental Law

Course Code: LAW122

LAW122-CO1: Analyse the concept of environment, pollution and the nature and scope of environmental law. *Analyse*

LAW122-CO2: Analyse the core elements of international legal framework pertaining to environment. *Analyse*

LAW122-CO3: Demonstrate an ability to engage in debates about the ways in which environment is protected under Indian legal regime. *Comprehension*

LAW122-CO4: Critically articulate the interface between domestic and international legal framework on environment. *Comprehension*

LAW122-CO5: Examine the importance of forest and need for its conservation under the legal framework. *Comprehension*

34. Course Name: Labour & Industrial Law-I

Course Code: LAW123

LAW123-CO1: Describe the evolution of trade unions in India and the rights and liabilities of the Registered Trade Unions *Knowledge*

LAW123-CO2: Demonstrate the Dispute Settlement Mechanism under the Industrial Disputes Act, 1947 *Application*

LAW123-CO3: Illustrate various instruments of economic coercion and Unfair Labor Practices *Application*

LAW123-CO4: Write various provisions relating to the health, safety and welfare under the Factories Act, 1948? *Application*

LAW123-CO5: Prepare a set of model standing orders under the Industrial Employment Standing Orders Act, 1946 *Application*

35. Course Name: Drafting, Pleadings & Conveyancing

Course Code: LAW201

LAW201-CO1: Distinguish between the legal terms drafting, pleading, and conveyancing. *Knowledge*

LAW201-CO2: Apply theoretical knowledge of the law to practical situations. *Application*

LAW201-CO3: Prepare legal documents that are utilised in the practice of law. *Comprehensive*

36. Course Name: Fundamentals of Moot Court

Course Code: LAW206

LAW206-CO1: Understand the basic etiquettes of the Court Room. *Knowledge*

LAW206-CO2: Generate their oral and written advocacy skill. *Application*

LAW206-CO3: Analyze legislations and case law relevant to a problem. *Comprehensive*



37. Course Name: Health Law

Course Code: LAW314

LAW314-CO1: Examine the intersection between law and medicine and its ramifications.

Analysis

LAW314-CO2: Explain the role of State to provide public health facilities *Comprehension*

LAW314-CO3: Evaluate various issues pertaining to ethic and liability of medical profession

Analysis

LAW314-CO4: Assess various legal provisions pertaining to health sector in both at national and international perspective *Analysis*

LAW314-CO5: Examine the emergence of technology that health sector deploys which could lead to ethical dilemma *Analysis*

38. Course Name: Media & Law

Course Code: LAW403

LAW403-CO1: Understand the concept of Media and its changing dimensions in and across the world *Understand*

LAW403-CO2: Discuss the role of media in context of legal, social and political aspect *Discuss*

LAW403-CO3: Interpret both positive and negative impacts of media *Interpret*

LAW403-CO4: Co-relate various facets of media law with relevant set of legislation *Co-Relate*

LAW403-CO5: Analyze the regulatory mechanism of media through specific laws *Analyze*

39. Course Name: Insolvency & Bankruptcy Law

Course Code: LAW405

LAW405-CO1: Understand the concepts of Insolvency and Bankruptcy

Comprehension

LAW405-CO2: Distinguish between the Corporate Insolvency and Individual Bankruptcy

Comprehension

LAW405-CO3: Explain the role of various intermediaries under the Code

Comprehension

LAW405-CO4: Describe the filing and compliance procedures mentioned under the Code

Comprehension

40. Course Name: Law relating to Mergers & Acquisitions

Course Code: LAW406

LAW406-CO1: Understand the basic concepts and business rationale behind mergers and acquisitions. *Comprehension*



LAW406-CO2: Identify various legal and commercial issues involved in process of mergers and acquisitions. *Comprehension*

LAW406-CO3: Explore provision in law available to the parties to mitigate various risks pertaining to merger and acquisition. *Comprehension*

LAW406-CO4: Infer the impact of M&A on issues relating to competition, tax and IPR. *Comprehension*

LAW406-CO5: Analyze various legal and regulatory issues relating to mergers and acquisitions *Analyze*

41. Course Name: Competition Law

Course Code: LAW308

LAW308-CO1: Demonstrate Understanding of foundations of Competition Law and Policy *Knowledge*

LAW308-CO2: Apply the principles of competition law to identify anti-competitive practices *Knowledge*

LAW308-CO3: Propose solutions under the Competition Act 2002 to eliminate anti-competitive practices in a market situation. *Comprehension*

LAW308-CO4: Analyse the conflict between Intellectual Property Rights and Competition Law *Comprehension*

42. Course Name: Banking Law

Course Code: LAW311

LAW311-CO1: Understand the banking structure in India. *Knowledge*

LAW311-CO2: Analyse the relationship between the Banker and Customer. *COMPREHENSION*

LAW311-CO3: Identify the recent trends of Banking system in India. *COMPREHENSION*

LAW311-CO4: Solve the problems related to the Negotiable Instruments Act, 1881. *Application*

43. Course Name: Maritime and Admiralty Law

Course Code: LAW317

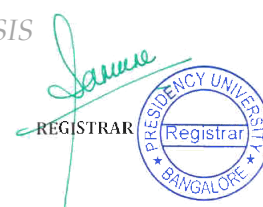
LAW317-CO1: Understand various laws governing the growth of maritime and admiralty law in India and International *KNOWLEDGE*

LAW317-CO2: Interpret various Indian legislations pertaining to ownership and management of ships *ANALYSIS*

LAW317-CO3: Explain various Law governing Commercial Shipping Laws *COMPREHENSION*

LAW317-CO4: Analyze the Marine Insurance Laws and Regulations *ANALYSIS*

LAW317-CO5: Analyse the issues related to safety and security at Sea. *ANALYSIS*



44. Course Name: Regional Agreement & Regionalization

Course Code: LAW318

LAW318-CO1: Define the dynamics in the definition of globalization. *Knowledge*

LAW318-CO2: Understand the theoretical background of international regimes to comprehend why states join international organizations. *Comprehension*

LAW318-CO3: Identify the major regional trade agreement. *Application*

LAW318-CO4: Critically analyze the free trade agreements. *Analysis*

LAW318-CO5: Explore the comparative study of regional trade agreements to identify legal strengths and weakness of regional trade regimes. *Evaluation*

45. Course Name: International Trade Law

Course Code: LAW322

LAW322-CO1: Analyze the concept of International Trade Policies and their impact on domestic policies. *Analyze*

LAW322-CO2: Examine the inflows and outflows of foreign exchange and its role in Indian economy *Comprehension*

LAW322-CO3: Interpret various nuances of the process of export-import of goods and services. *Analyze*

LAW322-CO4: 4 Examine the provisions enacted in laws related to foreign-trade with reference to India. *Applicability*

LAW322-CO5: Analyze the functions of international organizations in specialized sectors and dispute resolution *Analyze*

46. Course Name: Laws Relating to Women and Children

Course Code: LAW407

LAW407-CO1: Understand the relevance of Gender Study and rights of Children *Comprehension*

LAW407-CO2: Understand the intersection between Gender & National Law *Comprehension*

LAW407-CO3: Analyze the various laws pertaining to women in the International Legal Framework. *Analyze*

LAW407-CO4: Apply various concepts and the important aspects of national legislations related to child rights in practical field. *Applicability*

LAW407-CO5: Understand the rights relating to children and the various international legal connotations relating to these rights. *Comprehension*

47. Course Name: Intellectual Property Law- II

Course Code: LAW408



LAW408-CO1: Apply the Patent Laws in National & International perspectives for the protection of inventions *Application*

LAW408-CO2: Analyze the problems related to the protection of Bio-Diversity under IPR. *Analysis*

LAW408-CO3: Comprehend the issues related to the Design under IPR. *Comprehension*

LAW408-CO4: Understand the contemporary domains and changing dimensions of IPR at the National and International Level. *Comprehension*

48. Course Name: Advanced PIL

Course Code: LAW421

LAW421-CO1: Analyze the concept of State Responsibility in the wake of contemporary world issues. *ANALYSIS*

LAW421-CO2: Examine the complexity of international legal regime and disputes on law of the sea. *COMPREHENSION*

LAW421-CO3: Critique the concept of jurisdiction vis-à-vis States. *ANALYSIS*

LAW421-CO4: Analyze the position of Diplomatic Agents and their immunities. *APPLICATION*

LAW421-CO5: Analyze the issues and challenges being faced by contemporary international legal regime *APPLICATION*

49. Course Name: Research Methodology

Course Code: LAW991

LAW991-CO1: Understand the meaning, objectives of legal research *Comprehension*

LAW991-CO2: Describe the concept and characteristics of research problem, hypothesis and research design *Comprehension*

LAW991-CO3: Explain different sampling techniques *Comprehension*

LAW991-CO4: Interpret classification, tabulation, analysis of data *Comprehension*

50. Course Name: Introduction to Sociology

Course Code: BAL204

BAL204-CO1: Define the study of Sociology and its relation to other Social Sciences. *Knowledge*

BAL204-CO2: Explain the sociological perspectives of Functionalist, Conflict, Interactionist, Weberian, and Postmodernist *Comprehension*

BAL204-CO3: Describe theories of Sociology proposed by Comte, Martineau, Marx, Durkheim and Spencer. *Application*

BAL204-CO4: Recognize concepts under Social Stratification. *Analysis*

BAL204-CO5: Discuss components of Social Institutions. *Evaluation*



51. Course Name: Legal Methods and Legal Reasoning

Course Code: LAW101

LAW101-CO1: Understand the various kinds of law, legal systems and institutions. *Knowledge*

LAW101-CO2: Explain the various sources of law, structure and hierarchy of courts in India.
Knowledge

LAW101-CO3: Demonstrate an ability to express legal reasoning both inductive and deductive. *Comprehensive*

LAW101-CO4: Identify various steps in legal research and use legal material both digital and physical *Application*

52. Course Name: Law of Contract

Course Code: LAW103

LAW103-CO1: Explain the basic principles of law of contract *Knowledge*

LAW103-CO2: Infer the legal aspects of a valid consideration and capacity to contract.
Comprehensive

LAW103-CO3: Illustrate importance of free consent as an essential to a valid contract.
Comprehensive

LAW103-CO4: Identify various types of Contract under Indian Contract Act, 1872
Comprehensive

LAW103-CO5: Categorize the various modes of Discharge of Contract and remedies for breach of contract. *Comprehensive*

LAW103-CO6: Illustrate the remedies for breach of contract and specific *application*

53. Course Name: Principles of Management

Course Code: BBL101

BBL101-CO1: Define basic concepts of Management. *Knowledge*

BBL101-CO2: Describe what is planning process and how decision to be made. *Knowledge*

BBL101-CO3: Distinguish between different organization structures. *COMPREHENSION*

BBL101-CO4: Discuss different leadership style. *Application*

BBL101-CO5: Interpret different types of control process. *Knowledge*

54. Course Name: Company Law-I

Course Code: LAW118

LAW118-CO1: C.O.1Apply the sections of Company Act, 2013 in Corporate Litigation
Knowledge



LAW118-CO2: C.O.2 Analyze the foundational principles of Indian corporate law, undertake legal research with primary and secondary materials, and evaluate legal information.
COMPREHENSION

LAW118-CO3: C.O.3 Acquire problem recognition and problem identification skills necessary in the modern business environment as well as for the more advanced commercial law papers.
COMPREHENSION

LAW118-CO4: C.O.4 Understand the significant trends and recurring issues in company law.
Application

55. Course Name: Taxation of Corporations

Course Code: BCL203

BCL203-CO1: Identify the contents of tax planning and management *ANALYSIS*

BCL203-CO2: Summarize the general idea about taxation and corporation
COMPREHENSION

BCL203-CO3: Summarize the tax planning with respect to specific business decisions
KNOWLEDE

BCL203-CO4: Summarize the concept of Non Resident *ANALYSIS*

BCL203-CO5: Analysis the role of Corporate Restructuring *ANALYSIS*

56. Course Name: Marketing Management

Course Code: BBL105

BBL105-CO1: Describe the basic concepts of marketing. *Comprehension*

BBL105-CO2: Explain the concepts of consumer behavior to choose the relevant STP strategy.
Comprehension

BBL105-CO3: Apply the concepts of Product Mix in Marketing Decision Making. *Application*

BBL105-CO4: Indicate the appropriate Pricing and Distribution strategy for a given marketing situation. *Knowledge*

BBL105-CO5: Discuss various tools employed as part of Promotion strategy. *Comprehension*

57. Course Name: Intellectual Property Rights-I

Course Code: LAW303

LAW303-CO1: Outline the basics concepts of IPR from a National & International perspective
Comprehension

LAW303-CO2: Analyse the problems related basics of copyright, and the related protection mechanism in the light of the Indian and International Framework *Analysis*

LAW303-CO3: Identify the issues related to the Trademark. *Knowledge*

LAW303-CO4: Discuss the concept of GI with the help of a Case Study. *Comprehension*

58. Course Name: Law relating to women & children

Course Code: LAW407



LAW407-CO1: Understand the relevance of Gender Study and rights of Children
Comprehension

LAW407-CO2: Understand the intersection between Gender & National Law *Comprehension*

LAW407-CO3: Analyze the various laws pertaining to women in the International Legal Framework. *Analyze*

LAW407-CO4: Apply various concepts and the important aspects of national legislations related to child rights in practical field. *Applicability*

LAW407-CO5: Understand the rights relating to children and the various international legal connotations relating to these rights. *Comprehension*

59. Course Name: Family Law-II

Course Code: LAW108

LAW108-CO1: Understand the concepts of property relations in a family and its implication on joint family and testamentary succession. *Knowledge*

LAW108-CO2: Identify various elements under the intestate succession act. *Comprehension*

LAW108-CO3: Enhance their knowledge on importance of ancestral property and Kart families in Hindu family. *Application*

LAW108-CO4: Interpret various rules regarding Religious and Charitable Endowments under Hindu and Muslim Laws. *Analyse*

LAW108-CO5: Application and its implication on the legal provisions and precedents to hypothetical problems. *Application*

60. Course Name: Public International Law

Course Code: LAW120

LAW120-CO1: Outline the basic concepts and legal foundations of Public International law. *Comprehension*

LAW120-CO2: Apply sources of International Law to contemporary scenarios. *Comprehension*

LAW120-CO3: Explain relationship between International Law and Municipal Law. *Comprehension*

LAW120-CO4: Identify the criteria for State Recognition and State Succession *Application*

LAW120-CO5: Discuss different organs of UN and the role of UN in settlement of international disputes. *Comprehension*

61. Course Name: Insurance Law

Course Code: LAW401

LAW401-CO1: Explain the concepts of Insurance and various types of Insurance laws *Comprehension*

LAW401-CO2: Knowledge the law of Insurance law in India *Comprehension*



LAW401-CO3: Distinguish between the Life and Fire Insurance *Comprehension*

LAW401-CO4: Describe the basic concepts used in the law of insurance *Comprehension*

62. Course Name: Political Theory

Course Code: BAL107

BAL107-CO1: Describe nature and function of political theory and its relevance for law *comprehension*

BAL107-CO2: Identify various approaches to study politics in relation to law and its practices. *comprehension*

BAL107-CO3: Analyze concepts and theories of political science and its implications for law. *analysis*

BAL107-CO4: Assess different facets of ideologies and its contribution towards legal profession. *analysis*

BAL107-CO5: Discuss the contemporary political debates and its utility in law *comprehension*

63. Course Name: Legal Methods and Reasoning

Course Code: LAW101

LAW101-CO1: Understand the various kinds of law, legal systems and institutions. *Knowledge*

LAW101-CO2: Explain the various sources of law, structure and hierarchy of courts in India. *Knowledge*

LAW101-CO3: Demonstrate an ability to express legal reasoning both inductive and deductive. *Comprehensive*

LAW101-CO4: Identify various steps in legal research and use legal material both digital and physical *Application*

64. Course Name: Actionable Wrongs and Compensation

Course Code: LAW125

LAW125-CO1: Describe the foundational principles of Law of Torts *Knowledge*

LAW125-CO2: Recognize the concept and kinds of liabilities in Torts *Comprehension*

LAW125-CO3: Identify the nature of Negligence, Nuisance and nervous Shock *Analysis*

65. Course Name: Principles of Accounting

Course Code: BCL107

BCL107-CO1: Appreciate the importance of financial accounting and the application of GAAP in accounting. *Knowledge*

BCL107-CO2: Understand the concepts of revenue, expense, assets, liabilities and capital and the formation of accounting equation *Comprehension*



BCL107-CO3: Journalizing, posting in Ledger, Trial Balance, Adjusting Entries. *Comprehension*

BCL107-CO4: The accounting cycle – Final Accounts & Preparation of P/L A/C and Balance Sheet. *Comprehension*

BCL107-CO5: Preparation of Trading and Profit and Loss Account and Balance Sheet *Application*

66. Course Name: Indian Government and Politics

Course Code: BAL109

BAL109-CO1: Explain different features and approaches to the study of Indian State and Constitution *comprehension*

BAL109-CO2: Examine the functioning of democratic, political processes and institutions of governance in India *comprehension*

BAL109-CO3: Analyze contemporary issues in Indian politics. *analysis*

BAL109-CO4: Identify contemporary challenges of Indian Democracy *analysis*

67. Course Name: Law of Crimes-II

Course Code: LAW110

LAW110-CO1: 1. Understand the fundamentals of Substantive Criminal Law prevalent in the country with special reference to Indian Penal Code. *Comprehensive*

LAW110-CO2: 1. Conceptualise the use of General defences as an exception in Law of Crimes. *Comprehensive*

LAW110-CO3: 1. Outline the offences against Human Body and the grave punishments enumerated in the code. *Analysis*

LAW110-CO4: Analyze the components of criminal wrongs against property and public tranquillity. *Analysis*

LAW110-CO5: Identify the offence against State and Public safety. *Analysis*

68. Course Name: Constitutional Law-I

Course Code: LAW112

LAW112-CO1: State the evolution of Constitutional law in the existing form *Knowledge*

LAW112-CO2: Describe fundamental rights enumerated in Part III of the Constitution of India *Comprehension*

LAW112-CO3: Outline articles related to the fundamental right of freedom *Comprehension*

LAW112-CO4: Discuss Judicial activism, Writs and PIL *Comprehension*

LAW112-CO5: Explain Directive principles of State policy and fundamental duties *Application*

69. Course Name: NTCC: Moot Court

Course Code: LAW502



LAW502-CO1: Understand the basic etiquettes of the Court Room. *Knowledge*

LAW502-CO2: Generate their oral and written advocacy skill. *Application*

LAW502-CO3: Analyze legislations and case law relevant to a problem *application*

70. Course Name: NTCC: Client Counseling

Course Code: LAW504

LAW504-CO1: Learn the nature of the attorney-client relationship, including the respective roles of attorney and client in identifying the problem, assessing considerations, and decision-making *Analysis*

LAW504-CO2: Understanding and accepting the client's values and objectives, and working out an appropriate relationship between the client and the attorney. *Comprehension*

LAW504-CO3: Being provided with the skills of self-reflection and learning from experience, the student will reflect rigorously on their own lawyering performances. *Application*

LAW504-CO4: Have the ability to learn from successes and failures, and thereby to engage in continuous learning. *Comprehension*

71. Course Name: Financial Management

Course Code: BBL110

BBL110-CO1: Recognize the importance of finance and the various factors considered before making a financial investment *Knowledge*

BBL110-CO2: Describe the various sources of funds and the cost of capital *Comprehension*

BBL110-CO3: Illustrate time value of money in investment and apply various capital budgeting techniques *Application*

BBL110-CO4: Prepare financial statement analysis *Application*

72. Course Name: Cost & Management Accounting

Course Code: BCL108

BCL108-CO1: Explain the elements of Cost and preparation of cost sheet. *Knowledge*

BCL108-CO2: Compute methods of cost control via material, labour and overhead costs. *Application*

BCL108-CO3: Prepare different types of budgets *Application*

BCL108-CO4: Interpret the Cash flows from operating, investing and financing activities of business concerns. *Application*

BCL108-CO5: Preparation of flexible Budget *Comprehension*

73. Course Name: Operations Management

Course Code: BBL109



BBL109-CO1: Explain the relevance of Production and Operations Management along with the role of production manager *Knowledge*

BBL109-CO2: State the attributes and benefits of the balanced scorecard in associating it with business Performance and examples *Comprehension*

BBL109-CO3: Describe the role of production and operations on managerial decision making. *Application*

BBL109-CO4: Explain how the production function associates with other firm functions. *Comprehension*

BBL109-CO5: Solve problems in forecasting related to production processes. *Application*

74. **Course Name:** E- Commerce and Marketing

Course Code: BBL111

BBL111-CO1: Understand the basic principles, concepts and perspectives in respect of e-commerce. *Knowledge*

BBL111-CO2: Explain laws of e-commerce and its development, including the case for or against a greater degree of international harmonisation. *Application*

BBL111-CO3: Evaluated and critically assessed the impact of the principles considered on individuals and businesses, from academic, practical and technological perspectives. *Knowledge*

BBL111-CO4: Critical view on the possible divergence and convergence of e-commerce with other areas of business. *Comprehension*

75. **Course Name:** Law Relating to Transfer of Property

Course Code: LAW133

LAW133-CO1: Analyze the concept, and nature of transfer of immovable property, and illustrate the different types of transfers and rules relating to it. *Knowledge*

LAW133-CO2: Evaluate the rules governing Sales, Mortgages, Leases, Exchanges, Gift and Actionable Claims rights and liabilities of transferor and transferee *Application*

LAW133-CO3: Apply the specific methods of transfer of property and easements *Application*

LAW133-CO4: Interpret the rules relating concept of easement and kinds of easement and rights and liabilities of transferor and transferee. *Knowledge*

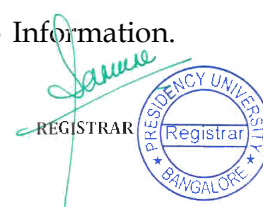
LAW133-CO5: Explain the creation and other related aspects regarding Trusts *Comprehension*

LAW133-CO6: Describe the concept of Equity with its varied specifications. *Application*

76. **Course Name:** Right To Information

Course Code: LAW312

LAW312-CO1: Define the basic principles and objectives behind the Right to Information. *Comprehension*



LAW312-CO2: Discuss the functions of the Authorities and their Obligations regarding the Act. *Comprehension*

LAW312-CO3: Outline various provisions related to Central and State Commission. *Comprehension*

LAW312-CO4: Outline role of laws in preventing corruption. *Comprehension*

LAW312-CO5: Relate RTI to Right to Privacy and Human Rights Act. *Comprehension*

LAW312-CO6: Explain the relation between RTI and other related legislations. *Comprehension*

77. **Course Name:** Professional Communication for lawyers

Course Code: ENG1005

ENG1005-CO1: Apply communication strategies for effective written communication in legal drafting *Comprehension*

ENG1005-CO2: Develop well-structured reports *Application*

ENG1005-CO3: Choose appropriate maxims to apply in legal writing. *Comprehension*

ENG1005-CO4: Interpret the language of the judgements with the help of literature and films *Comprehension*

ENG1005-CO5: Prepare legal notices in accordance with standard formats *Application*

78. **Course Name:** Legal Methods and Reasoning

Course Code: LAW1002

LAW1002-CO1: Understand the various kinds of law, legal systems and institutions. *Knowledge*

LAW1002-CO2: Explain the various sources of law, structure and hierarchy of courts in India. *Knowledge*

LAW1002-CO3: Demonstrate an ability to express legal reasoning both inductive and deductive. *Comprehensive*

LAW1002-CO4: Identify various steps in legal research and use legal material both digital and physical *Application*

79. **Course Name:** Law of Torts and MV Act

Course Code: LAW2021

LAW2021-CO1: To Describe the foundational principles of Law of Torts.. *Knowledge*

LAW2021-CO2: To Recognize the concept and kinds of liabilities in Torts *Comprehension*

LAW2021-CO3: To Identify the nature of Negligence , Nuisance and nervous Shock *Analysis*

LAW2021-CO4: To Discuss the various kinds of Torts against the person and property *Comprehension*

LAW2021-CO5: To Explain the working of COPRA and MVA *Comprehension*



80. Course Name: Political Theory

Course Code: BAL2001

BAL2001-CO1: Describe nature and function of political theory and its relevance for law *comprehension*

BAL2001-CO2: Identify various approaches to study politics in relation to law and its practices. *comprehension*

BAL2001-CO3: Analyze concepts and theories of political science and its implications for law. *analysis*

BAL2001-CO4: Assess different facets of ideologies and its contribution towards legal profession. *analysis*

BAL2001-CO5: Discuss the contemporary political debates and its utility in law *comprehension*

81. Course Name: Introduction to Sociology

Course Code: BAL2007

BAL2007-CO1: Define the study of Sociology and its relation to other Social Sciences. *Knowledge*

BAL2007-CO2: Explain the sociological perspectives of Functionalist, Conflict, Interactionist, Weberian, and Postmodernist. *Comprehension*

BAL2007-CO3: Describe theories of Sociology proposed by Comte, Martineau, Marx, Durkheim and Spencer. *Comprehension*

BAL2007-CO4: Recognize concepts under Social Stratification. *Comprehension*

BAL2007-CO5: Discuss components of Social Institutions. *Comprehension*

82. Course Name: Macro Economics

Course Code: BBA1006

BBA1006-CO1: Understand Economic theories to impart knowledge.

Comprehension

BBA1006-CO2: Explain the role of the Utility and Surplus value in economics. *Comprehension*

BBA1006-CO3: Examine the demand and Supply phenomenon in macro-economics. *Comprehension*

BBA1006-CO4: Evaluate the role of market in welfare of the society *Comprehension*

83. Course Name: Fundamentals of Moot Court

Course Code: LAW1004

LAW1004-CO1: Understand the basic etiquettes of the Court Room. *Comprehension*

LAW1004-CO2: Generate their oral and written advocacy skill. *Comprehension*



LAW1004-CO3: Analyze legislations and case law relevant to a problem. *Analysis*

84. Course Name: Business Economics

Course Code: SOC1002

SOC1002-CO1: Recognize the basic concepts of Economics. *Comprehension*

SOC1002-CO2: Discuss the meaning and objectives of internal check & internal control
Comprehension

SOC1002-CO3: Explain the Importance of audit programme *Comprehension*

SOC1002-CO4: Show the procedure of appointment and removal of auditor. *Comprehension*

SOC1002-CO5: Summarize the powers, duties and liabilities of Auditors along with EDP audit. *Comprehension*

85. Course Name: Basics of Accounting

Course Code: COM2007

COM2007-CO1: Appreciate the importance of financial accounting and the application of GAAP in accounting. *Knowledge*

COM2007-CO2: Understand the concepts of revenue, expense, assets, liabilities and capital and the formation of accounting equation. *Comprehension*

COM2007-CO3: Journalizing, posting in Ledger, Trial Balance, Adjusting Entries.
Comprehension

COM2007-CO4: The accounting cycle - Final Accounts & Preparation of P/L A/C and Balance Sheet. *Comprehension*

86. Course Name: Management and Behavioral Practices

Course Code: BBA2008

BBA2008-CO1: Explain the principles of management *Knowledge*

BBA2008-CO2: Summarize the functions of management *Comprehension*

BBA2008-CO3: Recognize the foundations/Factors of Individual behavior *Comprehension*

BBA2008-CO4: Distinguish between various group decision making techniques
Comprehension

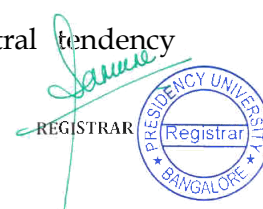
BBA2008-CO5: Explain the Behavior of employees at Organizational level *Comprehension*

87. Course Name: Business Statistics

Course Code: SOC2003

SOC2003-CO1: Recognize the basic concepts of Statistics *Knowledge*

SOC2003-CO2: Discuss the meaning and objectives of measures of central tendency
Comprehensive



SOC2003-CO3: Explain the importance of measures of dispersion, skewness and kurtosis
Comprehensive

SOC2003-CO4: Explain the significance of correlation and regression in research
Comprehensive

88. Course Name: India and World Geography

Course Code: BAL2002

BAL2002-CO1: Understand the theories of physical geography of India *Knowledge*

BAL2002-CO2: Describe Economic and social geography of India *Comprehension*

BAL2002-CO3: Evaluate the impact of geography on developed and developing countries
Application

BAL2002-CO4: Examine regional geography of South Asia *Analysis*

89. Course Name: Public Administration: Core Concepts

Course Code: BAL2004

BAL2004-CO1: understand the nature and scope of Public Administration *Understanding*

BAL2004-CO2: identify theories of public administration and administrative behavior
Comprehension

BAL2004-CO3: analyze the theories of public administration and administrative behavior
Analysis

BAL2004-CO4: outline the basic concepts in administrative law *Comprehension*

BAL2004-CO5: examine the emerging trends of public administration *Evaluation*

90. Course Name: Business Information

Course Code: BBA2002

BBA2002-CO1: Appraise the need for an Indigenous banking system in India. *Comprehension*

BBA2002-CO2: Identify the various types of business organizations and their working.
Comprehension

BBA2002-CO3: Examine the various issues relating to the traditional waterfall model.
Comprehension

BBA2002-CO4: Discuss the techniques for controlling information systems *Comprehension*

91. Course Name: Marketing Management

Course Code: BBA2005

BBA2005-CO1: To Describe the basic concepts of marketing. *Knowledge*

BBA2005-CO2: To Explain the concepts of consumer behavior to choose the relevant STP
strategy. *Comprehension*



BBA2005-CO3: To Apply the concepts of Product Mix in Marketing Decision Making
Comprehension

BBA2005-CO4: To Indicate the appropriate pricing and distribution strategy for a given marketing situation *Comprehension*

BBA2005-CO5: To Discuss various tools employed as part of Promotion strategy.
Comprehension

92. Course Name: Cost Accounting

Course Code: COM2009

COM2009-CO1: Summarizing Various Forms of cost. *Comprehension*

COM2009-CO2: Preparation of Material Costing under various methods *Knowledge*

COM2009-CO3: Preparation of Various Costing Methods *Knowledge*

COM2009-CO4: Outline of Various price Determinants *Knowledge*

COM2009-CO5: Summarize Various Cost Reduction techniques *Comprehension*

93. Course Name: Management Accounting

Course Code: COM2010

COM2010-CO1: Outline the concept and nature of Management Accounting , Management Accountant and Financial statements Analysis. *Comprehension*

COM2010-CO2: Discuss the Various methods of analyzing balance sheet through Ratio Analysis . *Application*

COM2010-CO3: Recognize the impact of Various items of Balance sheet on company using Fund Flow Statement . *Application*

COM2010-CO4: Describe the various opportunities available for Management through Cash flow statements *Application*

COM2010-CO5: Recognize various Budgetary Control techniques and patterns of Report writing . *Application*

94. Course Name: Organsational Behavior

Course Code: COM2013

COM2013-CO1: Predict the influence of individual behavior, group behavior and structure in improving the organizational effectiveness. *Comprehension*

COM2013-CO2: Demonstrate the individual behavior concepts for making people related decisions at workplace. *Application*

COM2013-CO3: Construct methods to enhance employee productivity in different workplace situations. *Comprehension*

COM2013-CO4: Identify the effectiveness of teams, groups and leaders. *Comprehension*

COM2013-CO5: Explain steps to manage organizational change and development in various context and settings *Comprehension*



95. Course Name: Law and Literature

Course Code: ENG3002

ENG3002-CO1: Explain the interrelationship between law and literature *Knowledge*

ENG3002-CO2: Apply literary tools and close reading in the interpretation of legal texts
Application

ENG3002-CO3: Analyze how literature can aid lawyers and judges to see subjectivity and bias inherent in the justice system *Application*

ENG3002-CO4: Develop ethical and moral values which they will utilize in their professional lives *Knowledge*

ENG3002-CO5: Analyze legal issues in motion film *Comprehension*

96. Course Name: Indian Penal Code

Course Code: LAW2023

LAW2023-CO1: 1. Understand the fundamentals of Substantive Criminal Law prevalent in the country with special reference to Indian Penal Code. *Comprehensive*

LAW2023-CO2: 1. Conceptualise the use of General defences as an exception in Law of Crimes. *Comprehensive*

LAW2023-CO3: 1. Outline the offences against Human Body and the grave punishments enumerated in the code. *Analysis*

LAW2023-CO4: Analyze the components of criminal wrongs against property and public tranquillity. *Analysis*

LAW2023-CO5: Identify the offence against State and Public safety. *Analysis*

97. Course Name: Special Contract

Course Code: LAW2025

LAW2025-CO1: Define the context and rational of specific contracts of Indemnity & Guarantee. *Comprehensive*

LAW2025-CO2: Determine the usage of principles and the rights of the parties under Bailment & Pledge *Comprehensive*

LAW2025-CO3: Identify the relation of contract of agency with our day to day commercial activities and their impact on social & economic front. *Application*

LAW2025-CO4: Identify the relevant legal issues involved in Sale of Goods Act and its applicability. *Application*

LAW2025-CO5: Apply the relevant principles, legal provisions and the case laws in Partnership Act to the legal issues in contractual dealings and construct a coherent and effective argument for dispute resolution. *Application*



98. Course Name: Constitutional Law-II

Course Code: LAW3003

LAW3003-CO1: Explain the nature of the federal polity and the various powers and limitations imposed on the Executive wing of the union and state. *Comprehension*

LAW3003-CO2: Express the various essential qualifications and limitations of the power of the Legislative wing of Union and State *Comprehension*

LAW3003-CO3: Identify the various powers and jurisdictions of the Union and State Judicial system. *Comprehension*

LAW3003-CO4: Recognize the various issues that may arise in the Centre-State relations through the established norms and precedents *Comprehension*

LAW3003-CO5: Analyse the powers of the government in declaring an emergency and amending the Constitution *Analysis*

99. Course Name: Research Methodology

Course Code: PGL1001

PGL1001-CO1: · Understand the meaning, objectives of legal research *Comprehension*

PGL1001-CO2: · Describe the concept and characteristics of research problem, hypothesis and research design *Comprehension*

PGL1001-CO3: Explain different sampling techniques *Comprehension*

PGL1001-CO4: · Interpret classification, tabulation, analysis of data *Comprehension*

100. Course Name: Comparative Public Law

Course Code: PGL1002

PGL1002-CO1: Understand the difference between various types of constitutions and types of states. *Comprehension*

PGL1002-CO2: Comprehend the law-making process under different types of constitutions. *Comprehension*

PGL1002-CO3: Distinguish the extent of judicial powers under different constitutions. *Comprehension*

PGL1002-CO4: Differentiate between executive power and legislative power. *Comprehension*

PGL1002-CO5: Appraise various processes for amendment of constitution under various jurisdictions. *Comprehension*

PGL1002-CO6: Understand the amendment process and role of citizens *Comprehension*

101. Course Name: IPR Regime

Course Code: PGL2002

PGL2002-CO1: Explain the various theories during evolution of IPR? *Knowledge*

PGL2002-CO2: Explain the challenges of IPR system in detail? *Comprehension*



PGL2002-CO3: How did the various conventions contribute to the growth of IPR?
Comprehension

PGL2002-CO4: Explain the Pre and Post-WTO period in the evolution of IPR? *Comprehension*

102. Course Name: Law, Science and Technology Interface: IPR in Digital Era

Course Code: PGL2001

PGL2001-CO1: Identify various facets of Intellectual Property. *Knowledge*

PGL2001-CO2: Examine and address the IP problems arising in Digital space. *Comprehensive*

PGL2001-CO3: Analyze the role of government in regulating technological developments at national and international levels. *Comprehensive*

PGL2001-CO4: Evaluate Intellectual Property law in India *Comprehensive*

103. Course Name: Competition Law and IPR

Course Code: PGL2007

PGL2007-CO1: Understand the significance of the IPR and their economic impact.
COMPREHENSION

PGL2007-CO2: Interpret various international laws across the nations relating to IPR.
COMPREHENSION

PGL2007-CO3: Explain different types of IPR. *COMPREHENSION*

PGL2007-CO4: Apply the provisions of law to litigations involved in cross border investments in IPR Disputes. *COMPREHENSION*

104. Course Name: Cyber Laws

Course Code: PGL2012

PGL2012-CO1: Understand the basic technology behind computers and the Internet from a legal point of view *Comprehension*

PGL2012-CO2: Explain the techno-legal aspects behind the growth of E-Commerce in India
Comprehension

PGL2012-CO3: Interpret the intersection between cyber-crimes and infringement upon IPRs
Comprehension

PGL2012-CO4: Analyze the application of IT Act, Cr.PC and law of evidence in prosecuting cyber-crimes *Comprehension*

PGL2012-CO5: Assess application of the IT Act to civil liabilities under cyber tort
Comprehension

105. Course Name: Law, Science & Technology Intersection

Course Code: PGL2011



PGL2011-CO1: Examine the role of international organizations in dealing with the sectors discussed *Knowledge*

PGL2011-CO2: Evaluate the technology law issues in the emerging sectors *Comprehension*

PGL2011-CO3: Examine the role of State in Technology Law *Comprehension*

PGL2011-CO4: Examine privacy under IPR laws *Comprehension*

106. **Course Name:** Data Protection and Privacy Laws

Course Code: PGL2004

PGL2004-CO1: Understand the basic principles and dimensions of Right to Privacy being considered as a Fundamental Right. *ANALYSIS*

PGL2004-CO2: Provide methods for protecting privacy using the Fair Information Principles *KNOWLEDGE*

PGL2004-CO3: Identify the privacy obligations that can apply to complex organizations *APPLICATION*

PGL2004-CO4: Identify the laws and regulations that pertain to data protection *APPLICATION*

107. **Course Name:** Financial Management

Course Code: BBL2001

BBL2001-CO1: Recognize the importance of finance and the various factors considered before making a financial investment *Knowledge*

BBL2001-CO2: Describe the various sources of funds and the cost of capital *Comprehension*

BBL2001-CO3: Illustrate time value of money in investment and apply various capital budgeting techniques *Application*

BBL2001-CO4: Prepare financial statement analysis *Application*

108. **Course Name:** Cost and Management Accounting

Course Code: BBL2006

BBL2006-CO1: Explain the elements of Cost and preparation of cost sheet. *Knowledge*

BBL2006-CO2: Compute methods of cost control via material, labour and overhead costs. *Application*

BBL2006-CO3: Prepare different types of budgets *Application*

BBL2006-CO4: Interpret the Cash flows from operating, investing and financing activities of business concerns. *Application*

BBL2006-CO5: Preparation of flexible Budget *Comprehension*

109. **Course Name:** Basics of Accounting

Course Code: BBL2007



BBL2007-CO1: Describe the importance and principles of financial accounting *Comprehension*

BBL2007-CO2: Explain the process of preparation of books of accounts *Comprehension*

BBL2007-CO3: CO-03 – Distinguish the different methods of recording transactions in the subsidiary books *Comprehension*

BBL2007-CO4: CO-04 – Discuss the various methods of depreciation *Comprehension*

BBL2007-CO5: CO-05 – Prepare the Financial Statement i.e Income Statement & Balance Sheet *Comprehension*

110. **Course Name:** Business Economics

Course Code: BCL1002

BCL1002-CO1: Recognize the basic concepts of Economics. *Comprehension*

BCL1002-CO2: Discuss the meaning and objectives of internal check & internal control *Comprehension*

BCL1002-CO3: Explain the Importance of audit programme *Comprehension*

BCL1002-CO4: Show the procedure of appointment and removal of auditor. *Comprehension*

BCL1002-CO5: Summarize the powers, duties and liabilities of Auditors along with EDP audit. *Comprehension*

111. **Course Name:** Business Statistics

Course Code: BCL2003

BCL2003-CO1: Recognize the basic concepts of Statistics *Knowledge*

BCL2003-CO2: Discuss the meaning and objectives of measures of central tendency *Comprehensive*

BCL2003-CO3: Explain the importance of measures of dispersion, skewness and kurtosis *Comprehensive*

BCL2003-CO4: Explain the significance of correlation and regression in research *Comprehensive*

112. **Course Name:** Basics of Accounting

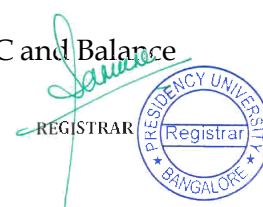
Course Code: BCL2007

BCL2007-CO1: Appreciate the importance of financial accounting and the application of GAAP in accounting. *Knowledge*

BCL2007-CO2: Understand the concepts of revenue, expense, assets, liabilities and capital and the formation of accounting equation. *Comprehension*

BCL2007-CO3: Journalizing, posting in Ledger, Trial Balance, Adjusting Entries. *Comprehension*

BCL2007-CO4: The accounting cycle – Final Accounts & Preparation of P/L A/C and Balance Sheet. *Comprehension*



113. Course Name: Legal Methods

Course Code: LAW2041

LAW2041-CO1: Understand the various kinds of law, legal systems and institutions.

Knowledge

LAW2041-CO2: Explain the various sources of law, structure and hierarchy of courts in India.

Knowledge

LAW2041-CO3: Demonstrate an ability to express legal reasoning both inductive and deductive. *Comprehensive*

LAW2041-CO4: Identify various steps in legal research and use legal material both digital and physical *Application*

114. Course Name: Law of Torts, Consumer Protection Act and MV Act

Course Code: LAW2042

LAW2042-CO1: To Describe the foundational principles of Law of Torts.. *Knowledge*

LAW2042-CO2: To Recognize the concept and kinds of liabilities in Torts *Comprehension*

LAW2042-CO3: To Identify the nature of Negligence , Nuisance and nervous Shock *Analysis*

LAW2042-CO4: To Discuss the various kinds of Torts against the person and property *Comprehension*

LAW2042-CO5: To Explain the working of COPRA and MVA *Comprehension*

115. Course Name: Law of Contracts- I

Course Code: LAW2043

LAW2043-CO1: Explain the basic principles of law of contract *Knowledge*

LAW2043-CO2: Infer the legal aspects of a valid consideration and capacity to contract. *Comprehensive*

LAW2043-CO3: Illustrate importance of free consent as an essential to a valid contract. *Comprehensive*

LAW2043-CO4: Identify various types of Contract under Indian Contract Act, 1872 *Comprehensive*

LAW2043-CO5: Categorize the various modes of Discharge of Contract and remedies for breach of contract. *Comprehensive*

LAW2043-CO6: Illustrate the remedies for breach of contract and specific *application*

116. Course Name: Corporate Accounting

Course Code: BCL103

BCL103-CO1: Explain the procedure for issue of shares and debentures *Comprehensive*



BCL103-CO2: Discuss the Underwriter's liability of shares *Comprehension*

BCL103-CO3: Discuss the process involved in Profit prior to Incorporation *Comprehension*

BCL103-CO4: Summarize the process of preparation of Company's Final Accounts *Comprehension*

BCL103-CO5: Explain the process of computation of Valuation of Shares *Comprehension*

117. **Course Name:** Managerial Accounting

Course Code: BBL102

BBL102-CO1: Outline the concept and nature of Management Accounting, Management Accountant and Financial Statements Analysis. *Comprehension*

BBL102-CO2: Discuss the Various methods of analyzing balance sheet through Ratio Analysis *APPLICATION*

BBL102-CO3: Recognize the impact of Various items of Balance sheet on company using Fund Flow Statement *APPLICATION*

BBL102-CO4: Explain the various opportunities available for Management through Cash flow statements *APPLICATION*

BBL102-CO5: Recognize various Budgetary Control techniques and patterns of Report writing . *APPLICATION*

118. **Course Name:** Financial Accounting

Course Code: BCL101

BCL101-CO1: Appreciate the importance of financial accounting and the application of GAAP in accounting. *Comprehension*

BCL101-CO2: Understand the concepts of revenue, expense, assets, liabilities and capital and the formation of accounting equation *Comprehension*

BCL101-CO3: Journalizing, posting in Ledger, Trial Balance, Adjusting Entries *Comprehension*

BCL101-CO4: The accounting cycle - Final Accounts & Preparation of P/L A/C and Balance Sheet *Comprehension*

BCL101-CO5: Financial Statement Analysis - Income Statement & Balance Sheet *Comprehension*

119. **Course Name:** Auditing

Course Code: BCL106

BCL106-CO1: Recognize the basic concepts of Auditing. *Comprehension*

BCL106-CO2: Discuss the meaning and objectives of internal control *Comprehension*

BCL106-CO3: Explain the Importance and types of Vouching *Comprehension*

BCL106-CO4: Show the verification and valuation of assets and liabilities. *APPLICATION*

BCL106-CO5: Summarize the powers, duties and liabilities of Auditors. *Comprehension*



120. Course Name: Ancient History

Course Code: BAL2012

BAL2012-CO1: Describe, the nature, origins, and evolution of the Indus valley civilization
Knowledge

BAL2012-CO2: Analyze the nature of the Sangam period through its literature *Comprehension*

BAL2012-CO3: Evaluate the nature of art, religion, and culture of the ancient history of India
Analysis

121. Course Name: Introduction to Economics

Course Code: BAL2009

BAL2009-CO1: Understand core economic principles and how they apply to a wide range of real-world issues *Comprehension*

BAL2009-CO2: Apply the theoretical and applied tools necessary to critique and create economic research *APPLICATION*

BAL2009-CO3: Examine how to articulate pragmatic, principles-based policies to enhance economic well-being and promote social justice. *Analysis*

BAL2010-CO4: Understand the salient developments in the world economy, in both present-day and historical contexts *Comprehension*

BAL2009-CO5: Analyze the performance and functioning of government, markets and institutions in the context of social and economic problems. *Analysis*

122. Course Name: Dissertation/Research Project

Course Code: LAW992

LAW992-CO1: Contextualization of Knowledge *Comprehension*

LAW992-CO2: Finding a compelling research problem *ANALYSIS*

LAW992-CO3: Tasks on evaluating and strengthening research problem *APPLICATION*

LAW992-CO4: Tools for self-evaluation *COMPREHENSION*

123. Course Name: Law and Language

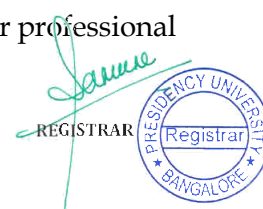
Course Code: ENG3001

ENG3001-CO1: Explain the interrelationship between law and language *Knowledge*

ENG3001-CO2: Apply language tools and close reading in the interpretation of legal texts
Application

ENG3001-CO3: Analyze how language can aid lawyers and judges to see subjectivity and bias inherent in the justice system *Application*

ENG3001-CO4: Develop ethical and moral values which they will utilize in their professional lives *Knowledge*



ENG3001-CO5: Analyze legal issues in language usages *Comprehension*

124. Course Name: Corporate Accounting

Course Code: BCL2008

BCL2008-CO1: Explain the procedure for issue of shares and debentures *Comprehension*

BCL2008-CO2: Discuss the Underwriter's liability of shares *Comprehension*

BCL2008-CO3: Discuss the process involved in Profit prior to Incorporation *Comprehension*

BCL2008-CO4: Summarize the process of preparation of Company's Final Accounts
Comprehension

BCL2008-CO5: Explain the process of computation of Valuation of Shares *Comprehension*

125. Course Name: Financial Accounting

Course Code: SOC2001

SOC2001-CO1: Describe the single-entry system *Comprehension*

SOC2001-CO2: Explain the process of fire insurance Claims. *Comprehension*

SOC2001-CO3: Discuss the different methods to prepare branch accounts. *Application*

SOC2001-CO4: Illustrate the Departmental Trading & Profit and Loss Account. *Application*

SOC2001-CO5: Enumerate the recent trends in accounting *Knowledge*



School of Media Studies

1. Course Name: Fundamentals of Journalism

Course Code: BAJ1001

BAJ1001-CO1: Describe the nature and scope of journalism *Knowledge*

BAJ1001-CO2: Demonstrate the ability to think critically and independently *Knowledge*

BAJ1001-CO3: Apply the principles of journalism and express oneself clearly both in writing and orally. *Comprehension*

BAJ1001-CO4: Analyze the events and carry out background research competently. *Comprehension*

BAJ1001-CO5: Examine the technical jargons of journalism learnt *Synthesis*

2. Course Name: Introduction to Communication

Course Code: BAJ1002

BAJ1002-CO1: Understanding the various facets of communications. *Knowledge*

BAJ1002-CO2: Identify the criteria for evaluating communication models *Knowledge*

BAJ1002-CO3: Apply appropriate theories to given communication contexts in real life situations. *Apply*

BAJ1002-CO4: Evaluating the essentials of communication *Evaluate*

BAJ1002-CO5: Analyzing the importance of communication in Public Sphere. *Analyze*

3. Course Name: Introduction to Media Studies

Course Code: BAJ1008

BAJ1008-CO1: Describe the history of traditional media. *Knowledge*

BAJ1008-CO2: Describe the origin of the print, electronic and digital media. *Knowledge*

BAJ1008-CO3: Recognize the technological advancements in print, electronic and digital media *Comprehension*

BAJ1008-CO4: Use the knowledge gained and apply them to relevant tasks. *Application*

BAJ1008-CO5: Compare the different types of media output using the same example. *Analysis*

4. Course Name: Introduction to Digital Media

Course Code: BAJ1009

BAJ1009-CO1: Understand digital media and the relationship with society as a medium of communication. *Knowledge*

BAJ1009-CO2: Examine the news determinants & etiquettes of internet reporting *Knowledge*



BAJ1009-CO3: 3. Understand the concepts and apply production methods to create digital graphics, digital animations, audio, video and web-based digital media *Knowledge*

BAJ1009-CO4: Evaluating the importance of Mobile Journalism. *Evaluate*

BAJ1009-CO5: Identify the legal implications related to New Media *Knowledge*

5. **Course Name:** Current affairs & contemporary issues

Course Code: BAJ1004

BAJ1004-CO1: Identify various issues and concerns in the world *Knowledge*

BAJ1004-CO2: Understand the structure of various international groups *Comprehension*

BAJ1004-CO3: Assess world events to address global issues. *Analysis*

BAJ1004-CO4: Explain various Indian foreign policies *Comprehension*

BAJ1004-CO5: Apply the knowledge in reforming the society *Application*

BAJ1004-CO6: Apply the knowledge in reforming the society *Application*

6. **Course Name:** Writing for Print Media & Script writing

Course Code: BAJ1010

BAJ1010-CO1: Describe the essential elements of writing headlines and leads Blooms taxonomy *Knowledge Knowledge*

BAJ1010-CO2: Compare the news articles, editorials, and features Blooms taxonomy *Evaluation Evaluate*

BAJ1010-CO3: Judge the editorial content and write editorial pieces Blooms taxonomy *Evaluation Evaluate*

BAJ1010-CO4: Reproduce editorial pages of newspapers Blooms taxonomy *Knowledge Knowledge*

BAJ1010-CO5: Illustrate the basic principles of page designing Blooms taxonomy *Analysis Analysis*

7. **Course Name:** Political theory

Course Code: BAJ2003

BAJ2003-CO1: Describe the basic concepts of political theory *Knowledge Knowledge*

BAJ2003-CO2: Differentiate the critical and contemporary perspectives in political theory . *Comprehension*

BAJ2003-CO3: Distinguish various forms of democracy. *Comprehension*

BAJ2003-CO4: Discuss various human, economic and social rights. *Comprehension*

8. **Course Name:** Advance psychology

Course Code: BAJ2004



- BAJ2004-CO1:** Explain the correlation between media and psychology *Comprehension*
- BAJ2004-CO2:** Identify the functions of a media psychologist *Evaluate*
- BAJ2004-CO3:** Know multicultural understanding, use, influence, and impact of media *Knowledge*
- BAJ2004-CO4:** Awareness about opportunities in the field of media and communication *Evaluate*
- BAJ2004-CO5:** Considerate social setups – psychological role in building society *Analysis*

9. Course Name: Media Management & Entrepreneurship

Course Code: BAJ3003

- BAJ3003-CO1:** Understanding the concept of Media management *Awareness*
- BAJ3003-CO2:** Understand the structure of various media organization *Comprehension*
- BAJ3003-CO3:** Assess world media scenarios *Comprehension*
- BAJ3003-CO4:** Apply the knowledge in coming up with their own innovative ideas and resolve challenges related to media managements. *Application*

10. Course Name: Digital Journalism

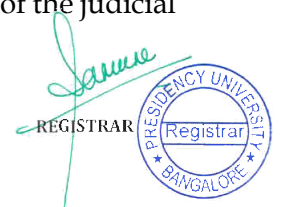
Course Code: BAJ3015

- BAJ3015-CO1:** Define the various hardware and software used in digital news reporting *Knowledge*
- BAJ3015-CO2:** Identify the various social media platforms and their influence on news dissemination. *Comprehension*
- BAJ3015-CO3:** Apply social media strategies, including using metrics and analytics for audience development. *Application*
- BAJ3015-CO4:** Interpret various ethical and legal implications of online and social media practices. *Analysis*
- BAJ3015-CO5:** Create digital journalistic content for online platforms. *Synthesis*

11. Course Name: Investigative & Crime journalism

Course Code: BAJ3021

- BAJ3021-CO1:** Understand the theoretical foundation of covering crime in various media. *Knowledge*
- BAJ3021-CO2:** Interpret the role of the media in perceptions of crime and justice issues and policies. *Comprehension*
- BAJ3021-CO3:** Describe the common links between media portrayal and criminal justice actors, issues, and policies. *Application*
- BAJ3021-CO4:** Distinguish the structure, hierarchy, functions, and jurisdictions of the judicial system. *Analysis*



BAJ3021-CO5: Apply various techniques of investigative journalism in crime reporting
Synthesis

12. Course Name: Fundamentals of Journalism

Course Code: BAJ1011

BAJ1011-CO1: Identify the basic nuances, competencies and principles of Journalism.
Knowledge

BAJ1011-CO2: Discuss the history of journalism and importance of regional journalism.
Comprehension

BAJ1011-CO3: Discuss the history of journalism and importance of local journalism
Comprehension

BAJ1011-CO4: Compare various theories of press. *Analysis*

BAJ1011-CO5: Analyze the importance of news agencies. *Analysis*

13. Course Name: Introduction to Communication Model

Course Code: BAJ1012

BAJ1012-CO1: Understand the need for and importance of communication *Comprehension*

BAJ1012-CO2: Explain various theories of communication *Knowledge*

BAJ1012-CO3: Analyze various communications models *Knowledge*

BAJ1012-CO4: Assess the impact of media on society *Evaluate*

14. Course Name: Indian Polity : State and Democracy

Course Code: BAJ1013

BAJ1013-CO1: Restate the philosophy and making of the Indian Constitution *Comprehension*

BAJ1013-CO2: Appraise the idea of democracy along with the future concerns and challenges related to democracy *Evaluation*

BAJ1013-CO3: Recite an understanding of the federal system of governance *Knowledge*

BAJ1013-CO4: Interpret and critically analyse the electoral system of the country, and party system and know the government *Evaluation*

BAJ1013-CO5: Identify the issues related to media practice in India *Analysis*

15. Course Name: Print Media Theory and Practice

Course Code: BAJ1015

BAJ1015-CO1: Describe the essential elements of writing headlines and leads Blooms taxonomy *Knowledge*

BAJ1015-CO2: Compare the news articles, editorials, and features Blooms taxonomy *Evaluation*



BAJ1015-CO3: Judge the editorial content and write editorial pieces Blooms taxonomy
Evaluation *Evaluation*

BAJ1015-CO4: Reproduce editorial pages of newspapers Blooms taxonomy
Knowledge *Knowledge*

BAJ1015-CO5: Illustrate the basic principles of page designing Blooms taxonomy
Analysis *Analysis*

16. **Course Name:** Introduction to Advertising and Public Relation

Course Code: BAJ1016

BAJ1016-CO1: Define and remember basic concepts in Public Relation. *Knowledge*

BAJ1016-CO2: Identify planning, management and tools of PR *Knowledge*

BAJ1016-CO3: Describe the communication strategies with various publics *Comprehension*

BAJ1016-CO4: Describe the nature, functions, and theories of advertising. *Comprehension*

BAJ1016-CO5: Discuss the emergence of advertising. *Analysis*

17. **Course Name:** Basics of Computer Skills -I

Course Code: BAJ1017

BAJ1017-CO1: To define a computer *Knowledge*

BAJ1017-CO2: To classify various computer hardware and software *Comprehension*

BAJ1017-CO3: To manipulate word document in MS Word, a spreadsheet in MS Excel, a presentation in MS PowerPoint. *Application*

BAJ1017-CO4: To prepare a word document in MS Word, a spreadsheet in MS Excel, a presentation in MS PowerPoint. *Synthesis*

18. **Course Name:** Political theory

Course Code: BAJ2003

BAJ2003-CO1: Discuss various human, economic and social rights. *Comprehension*

19. **Course Name:** Advance psychology

Course Code: BAJ2004

BAJ2004-CO1: Explain the correlation between media and psychology *Comprehension*

BAJ2004-CO2: Identify the functions of a media psychologist *Evaluate*

BAJ2004-CO3: Know multicultural understanding, use, influence, and impact of media
Knowledge

BAJ2004-CO4: Awareness about opportunities in the field of media and communication
Evaluate

BAJ2004-CO5: Considerate social setups – psychological role in building society *Analysis*



20. Course Name: Media Management & Entrepreneurship

Course Code: BAJ3003

BAJ3003-CO1: Understanding the concept of Media management *Awareness*

BAJ3003-CO2: Understand the structure of various media organization *Comprehension*

BAJ3003-CO3: Assess world media scenarios *Comprehension*

BAJ3003-CO4: Apply the knowledge in coming up with their own innovative ideas and resolve challenges related to media managements. *Application*

21. Course Name: Digital Journalism

Course Code: BAJ3015

BAJ3015-CO1: Define the various hardware and software used in digital news reporting *Knowledge*

BAJ3015-CO2: Identify the various social media platforms and their influence on news dissemination. *Comprehension*

BAJ3015-CO3: Apply social media strategies, including using metrics and analytics for audience development. *Application*

BAJ3015-CO4: Interpret various ethical and legal implications of online and social media practices. *Analysis*

BAJ3015-CO5: Create digital journalistic content for online platforms. *Synthesis*

22. Course Name: Investigative & Crime journalism

Course Code: BAJ3021

BAJ3021-CO1: Understand the theoretical foundation of covering crime in various media. *Knowledge*

BAJ3021-CO2: Interpret the role of the media in perceptions of crime and justice issues and policies. *Comprehension*

BAJ3021-CO3: Describe the common links between media portrayal and criminal justice actors, issues, and policies. *Application*

BAJ3021-CO4: Distinguish the structure, hierarchy, functions, and jurisdictions of the judicial system. *Analysis*

BAJ3021-CO5: Apply various techniques of investigative journalism in crime reporting *Synthesis*

23. Course Name: Fundamentals of Journalism

Course Code: BAJ1011

BAJ1011-CO1: Identify the basic nuances, competencies and principles of Journalism. *Knowledge*



BAJ1011-CO2: Discuss the history of journalism and importance of regional journalism. *Comprehension*

BAJ1011-CO3: Discuss the history of journalism and importance of local journalism *Comprehension*

BAJ1011-CO4: Compare various theories of press. *Analysis*

BAJ1011-CO5: Analyze the importance of news agencies. *Analysis*

24. **Course Name:** Introduction to Communication Model

Course Code: BAJ1012

BAJ1012-CO1: Understand the need for and importance of communication *Comprehension*

BAJ1012-CO2: Explain various theories of communication *Knowledge*

BAJ1012-CO3: Analyze various communications models. *Knowledge*

BAJ1012-CO4: Assess the impact of media on society. *Evaluate*

25. **Course Name:** Indian Polity : State and Democracy

Course Code: BAJ1013

BAJ1013-CO1: Restate the philosophy and making of the Indian Constitution *Comprehension*

BAJ1013-CO2: Appraise the idea of democracy along with the future concerns and challenges related to democracy *Evaluation*

BAJ1013-CO3: Recite an understanding of the federal system of governance *Knowledge*

BAJ1013-CO4: Interpret and critically analyse the electoral system of the country, and party system and know the government *Evaluation*

BAJ1013-CO5: Identify the issues related to media practice in India *Analysis*

26. **Course Name:** Print Media Theory and Practice

Course Code: BAJ1015

BAJ1015-CO1: Describe the essential elements of writing headlines and leads *Knowledge*

BAJ1015-CO2: Compare the news articles, editorials, and features *Evaluation*

BAJ1015-CO3: Judge the editorial content and write editorial pieces *Evaluation*

BAJ1015-CO4: Reproduce editorial pages of newspapers *Knowledge*

BAJ1015-CO5: Illustrate the basic principles of page designing *Analysis*

27. **Course Name:** Introduction to Advertising and Public Relation

Course Code: BAJ1016

BAJ1016-CO1: Define and remember basic concepts in Public Relation. *Knowledge*

BAJ1016-CO2: Identify planning, management and tools of PR *Knowledge*



BAJ1016-CO3: Describe the communication strategies with various publics *Comprehension*

BAJ1016-CO4: Describe the nature, functions, and theories of advertising. *Comprehension*

BAJ1016-CO5: Discuss the emergence of advertising. *Analysis*

28. Course Name: Basics of Computer Skills -I

Course Code: BAJ1017

BAJ1017-CO1: To define a computer. *Knowledge*

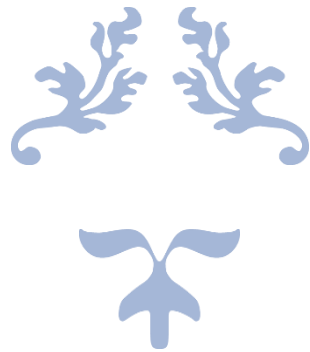
BAJ1017-CO2: To classify various computer hardware and software. *Comprehension*

BAJ1017-CO3: To manipulate word document in MS Word, a spreadsheet in MS Excel, a presentation in MS PowerPoint. *Application*

BAJ1017-CO4: To prepare a word document in MS Word, a spreadsheet in MS Excel, a presentation in MS PowerPoint. *Synthesis*



PRESIDENCY UNIVERSITY



COURSES OFFERED IN EVEN/WINTER SEMESTER-AY 2022-2023



School Of Engineering
Department of Chemistry

1. Course Name: Environmental Science

Course Code: CHE1018

CHE1018-CO1: Outline the need for eco-balance *Knowledge*

CHE1018-CO2: Memorize basic knowledge about global climate change with particular reference to the Indian context *Knowledge*

CHE1018-CO3: Identify ways to protect the environment *Comprehension*

2. Course Name: Applied Chemistry

Course Code: CHE1017

CHE1017-CO1: Identify the suitable polymers to replace the conventional materials *Knowledge*

CHE1017-CO2: Summarize the importance of various electrochemical sources in energy systems *Comprehension*

CHE1017-CO3: Describe the knowledge of electrochemistry principles for protection of different metals from corrosion *Knowledge*

CHE1017-CO4: Explain the fundamental principles in water treatment *Application*

3. Course Name: Fundamentals of Environmental Studies

Course Code: CHE1020

CHE1020-CO1: Outline the need for eco-balance *Knowledge*

CHE1020-CO2: Discuss the issues related to ecosystems, biodiversity and natural resources *Comprehension*

CHE1020-CO3: Identify environmental hazards affecting air, water and soil quality *Knowledge*

CHE1020-CO4: Recognize the importance of healthy environment and finding the sustainable methods to protect the environment *Comprehension*



School Of Engineering
Department of Civil Engineering

1. Course Name: Surveying

Course Code: CIV1005

CIV1005-CO1: Apply the knowledge of fundamental principles of surveying to establish points by predetermined linear and angular measurements. *Knowledge*

CIV1005-CO2: Compute the distance and elevation using the concepts of levelling by direct or indirect method. *Comprehension*

CIV1005-CO3: Interpreting the details of field and contours on sheet by site mapping using the concepts of plane table survey and contouring *Application*

2. Course Name: Basic Engineering Sciences

Course Code: CIV1008

CIV1008-CO1: Recognize the significance of various disciplines in Civil Engineering *Comprehension*

CIV1008-CO2: Discuss the recent evolutions in Civil Engineering *Comprehension*

CIV1008-CO3: Explain various energies, energy generating machineries and energy consumption machineries *Comprehension*

CIV1008-CO4: Distinguish between conventional and modern manufacturing techniques. *Comprehension*

3. Course Name: Building Materials and Concrete Technology

Course Code: CIV1006

CIV1006-CO1: Interpret the basic requirements and the properties of various building construction materials *Knowledge*

CIV1006-CO2: Identify the characteristics of basic ingredients and properties of concrete *Knowledge*

CIV1006-CO3: Design economic mix proportions for concrete mixes *Application*

4. Course Name: Engineering Graphics

Course Code: MEC1006

MEC1006-CO1: Demonstrate competency of technical drawing plotting as per the BIS conventions and standards *Comprehension*

MEC1006-CO2: Comprehend the theory of projection for drawing projections of Points, Lines and Planes under different conditions. *Application*

MEC1006-CO3: Prepare Multiview orthographic projections of Solids by visualizing them in different positions. *Application*



MEC1006-CO4: Prepare pictorial drawings using the principles of isometric projections to visualize objects in three dimensions. *Application*

5. Course Name: Analysis of Determinate Structures

Course Code: CIV2013

CIV2013-CO1: Identify the static and kinematic indeterminacies of structures and analyze the plane trusses. *Application*

CIV2013-CO2: Analyze the arches and cables to determine the internal forces. *Application*

CIV2013-CO3: Apply the compatibility equation by knowing slope and deflection in analyzing the indeterminate structure by using the consistent deformation method. *Application*

CIV2013-CO4: Calculate the slope and deflection in beam elements by using moment area method and conjugate beam method. *Application*

6. Course Name: Geotechnical Engineering

Course Code: CIV2015

CIV2015-CO1: Describe soil formation, index properties of soil, clay mineralogy and soil classification. *Knowledge*

CIV2015-CO2: Discuss the permeability, seepage and effective stress concepts. *Comprehension*

CIV2015-CO3: Solve the problems on shear strength, compaction and consolidation parameters. *Application*

7. Course Name: Transportation Engineering

Course Code: CIV2016

CIV2016-CO1: Explain the importance of highway planning and the characterization of materials used in highway construction *Comprehension*

CIV2016-CO2: Compute highway geometric design parameters *Application*

CIV2016-CO3: Discuss the elements of airport planning and railway engineering. *Comprehension*

8. Course Name: Hydrology and Irrigation Systems

Course Code: CIV2010

CIV2010-CO1: Discuss the concept of hydrology and components of hydrologic cycle. *Knowledge*

CIV2010-CO2: Interpret the different type of losses in precipitation *Application*

CIV2010-CO3: Compute the surface runoff using flood hydrograph *Application*

CIV2010-CO4: Explain the methods of irrigation and their suitability. *Comprehension*



9. Course Name: Basic Materials Testing Lab

Course Code: CIV2014

CIV2014-CO1: Compute the basic physical properties of aggregates required for mix design of concrete and design of pavements *Application*

CIV2014-CO2: Interpret the strength and quality of building materials subjected to various loading conditions *Application*

10. Course Name: Fluid Mechanics Lab

Course Code: CIV2048

CIV2048-CO1: Compute the coefficient of discharge, major and minor losses for flow through pipes. *Application*

CIV2048-CO2: Interpret the values flow measurement devices like VenturiMeter, orifice meter, v notch and its application in real projects *Application*

11. Course Name: Advanced Concrete Technology (DE-III)

Course Code: CIV2019

CIV2019-CO1: Interpret the influence of the concrete components and admixtures on the properties of concrete *Application*

CIV2019-CO2: Predict the properties and durability of hardened concrete *Comprehension*

CIV2019-CO3: Identify the correct concreting methods in the field depending upon the site condition *Application*

CIV2019-CO4: Choose the suitable concrete for different structures considering the on-site/client's requirements. *Application*

12. Course Name: Introduction to Infrastructure Systems and Planning (DE-III)

Course Code: CIV2036

CIV2036-CO1: Define terms associated with the types of Infrastructure systems *Knowledge*

CIV2036-CO2: Discuss steps in scheduling and management of activities associated with infrastructure projects *Comprehension*

CIV2036-CO3: Apply the concepts of financial evaluations in the infrastructure project and project the cash flows *Application*

13. Course Name: E-Governance (DE-III)

Course Code: CIV3044

CIV3044-CO1: Understand the concept of e-Governance and its utility *Knowledge*



CIV3044-CO2: Explain the various e-Governance and e-Government models *Comprehension*

CIV3044-CO3: Show how e-Governance is implemented *Comprehension*

CIV3044-CO4: Discuss the implementation of e-Governance in India *Application*

14. Course Name: Design of Structural Steel Elements

Course Code: CIV3004

CIV3004-CO1: Recognize the design philosophy of steel structures and concept of limit state design *Comprehension*

CIV3004-CO2: Identify the different failure modes of bolted and welded connections, and determine their design strengths *Comprehension*

CIV3004-CO3: Apply the design principles in design of tension and compression members according to specific design criteria *Application*

15. Course Name: Estimation, Costing and Valuation

Course Code: CIV3001

CIV3001-CO1: Describe the principles of estimation and units of measurement for various items of works *Knowledge*

CIV3001-CO2: Compute the quantity of materials required for various civil engineering works with specification *Application*

CIV3001-CO3: Estimate the valuation of various building works. *Comprehension*

16. Course Name: Hydrology and Irrigation Systems

Course Code: CIV2010

CIV2010-CO1: Discuss the concept of hydrology and components of hydrologic cycle. *Comprehension*

CIV2010-CO2: Interpret the different type of losses in precipitation *Application*

CIV2010-CO3: Compute the surface runoff using flood hydrograph *Application*

CIV2010-CO4: Explain the methods of irrigation and their suitability. *Comprehension*

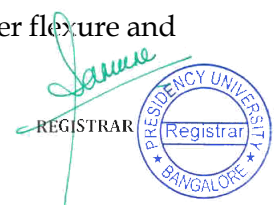
17. Course Name: Fundamentals of Pre-Stressed Concrete Design

Course Code: CIV3047

CIV3047-CO1: Compute the stresses and cracking moments in pre-stressing systems *Knowledge*

CIV3047-CO2: Examine losses and deflections in pre-stressed concrete members *Comprehension*

CIV3047-CO3: Illustrate design principles of pre-stressed concrete sections under flexure and shear *Application*



18. Course Name: Waste Water Treatment and Disposal Systems

Course Code: CIV3035

CIV3035-CO1: Estimate the strength and quantity of wastewater *Application*

CIV3035-CO2: Interpret the relevant treatment units/process for treatment of domestic sewage *Application*

CIV3035-CO3: Illustrate the appropriate disposal methods for sewage effluent/sludge *Application*

19. Course Name: Advanced Concrete Technology (DE-IV)

Course Code: CIV2019

CIV2019-CO1: Interpret the influence of the concrete components and admixtures on the properties of concrete *Application*

CIV2019-CO2: Predict the properties and durability of hardened concrete *Comprehension*

CIV2019-CO3: Identify the correct concreting methods in the field depending upon the site condition *Application*

CIV2019-CO4: Choose the suitable concrete for different structures considering the on-site/client's requirements. *Application*

20. Course Name: Construction Quality and Safety (DE-IV)

Course Code: CIV2039

CIV2039-CO1: Describe construction project management process and various engineering roles involved in project organization. *Comprehension*

CIV2039-CO2: Discuss total quality management and safety for construction projects. *Comprehension*

CIV2039-CO3: Indicate the aspects of Safety, safety rules. *Comprehension*

CIV2039-CO4: Identify risks involved in construction projects. *Comprehension*

21. Course Name: Fundamentals of Smart City (DE-IV)

Course Code: CIV2041

CIV2041-CO1: Describe the technologies and the smart solutions for the development of smart cities *Comprehension*

CIV2041-CO2: Discuss a sustainable urban system plan to build smart, inclusive, sustainable cities *Comprehension*

CIV2041-CO3: Identify the technical gaps in implementing and operation of smart cities *Comprehension*



22. Course Name: Extensive Survey Project (DE - V)

Course Code: CIV3048

CIV3048-CO1: Apply the knowledge of Surveying for collecting field data for water supply, highway and irrigation projects. *Application*

CIV3048-CO2: Design infrastructure projects such as water supply, highway and irrigation projects balancing the aspects of local needs, economic constraints and sustainability aspects. *Synthesis*

CIV3048-CO3: Prepare drawings and reports with the help of modern tools. *Application*

CIV3048-CO4: Demonstrate Individual and team work in collection of ground data with effective management of time and resources. *Application*

23. Course Name: Construction Economics and Contract Specifications

Course Code: CIV5007

CIV5007-CO1: Explain the balance sheet and cash flow statement for projects. *Comprehension*

CIV5007-CO2: Review the financial statement of a company based on its life cycle cost. *Application*

CIV5007-CO3: Discuss the documentation of various elements in contracts and tenders. *Comprehension*

24. Course Name: Building Services and Building Information Modelling

Course Code: CIV6002

CIV6002-CO1: Choose the different types of services required for structure.-Application *Application*

CIV6002-CO2: Prepare projects using Revit Architectural Template and work with Family tools.-Application *Application*

CIV6002-CO3: Demonstrate competency using REVIT to create and document residential buildings and small commercial buildings-Application *Application*

25. Course Name: Mechanization in Construction (DE-III)

Course Code: CIV5009

CIV5009-CO1: Identify different Construction methods and its application. *Knowledge*

CIV5009-CO2: Recognize the latest techniques used in surface and subsurface construction. *Comprehension*

CIV5009-CO3: Discuss the methods of drilling and blasting in tunnels and components of a tower crane *Comprehension*

CIV5009-CO4: Relate with different automated and robotic systems used in construction *Comprehension*



26. Course Name: Design concepts of substructures (DE-IV)

Course Code: CIV5013

CIV5013-CO1: Study different types of foundations for sub structures *Comprehension*

CIV5013-CO2: Recognize the importance of subsoil exploration in substructures
Comprehension

CIV5013-CO3: Evaluate the design parameters required for well foundation *Comprehension*

CIV5013-CO4: Understand the bridge sub structures *Comprehension*

27. Course Name: Advanced Design of Steel Structures (DE-V)

Course Code: CIV6008

CIV6008-CO1: Select the suitable type of connections for steel structures *Comprehension*

CIV6008-CO2: Explain the concept of plastic analysis of steel structure *Comprehension*

CIV6008-CO3: Apply design principles in analysis and design industrial buildings *Application*

CIV6008-CO4: Design structural sections for adequate fire resistance *Application*

28. Course Name: Self-Sustainable Buildings (OE-I)

Course Code: CIV5003

CIV5003-CO1: Recognize the importance of sustainability and prepare Life Cycle Analysis.
Knowledge

CIV5003-CO2: Discuss the construction materials of green building and their properties.
Comprehension

CIV5003-CO3: Infer the performance rating of green building with zero energy to overcome harmful impacts of Indoor air pollution. *Comprehension*

29. Course Name: Research Methodology (OE-I)

Course Code: RES5001

RES 5001-CO1: Apply the knowledge of review of literature in research problem definition
Application

RES 5001-CO2: Analyse the methodology referring to hypothesis, strategies and approach of research
Analysis

RES 5001-CO3: Develop the key the rationale for research ethics, plagiarism *Synthesis*

30. Course Name: Research Methodology

Course Code: RME802



RME802-CO1: Examine the ways and means to determine the problem statement of the research. *Comprehension*

RME802-CO2: Outline how to conduct and write the review of literature. *Analysis*

RME802-CO3: Relate the different methods of data analysis and data interpretation. *Analysis*

RME802-CO4: Understand the basics of philosophy of science and ethics, research integrity, and publication ethics and interpret the practices of research misconduct and predatory publications. *Evaluation*

RME802-CO5: Choose the appropriate platform to find authentic journals, indexing and citation databases, open access publishing, and research metrics. *Comprehension*

RME802-CO6: Apply knowledge on subject specific ethical issues and software tools for plagiarism by participating in Group Discussions *Application*

31. **Course Name:** Project problem based learning (OE)

Course Code: CIV3046

CIV3046-CO1: Apply the knowledge of domain learning to enable solutions to identified challenges at the Local, Regional, National and Global. *Comprehension*

CIV3046-CO2: Analyse the dynamic behavior of the natural systems to employ the BMPs in context to societal needs. *Application*

CIV3046-CO3: Develop the methodology/execute to solve the identified problems. *Application*

32. **Course Name:** Professional Practice-II

Course Code: PIP102

PIP102 -CO1: Identify the engineering problems related to local, regional, national or global needs. *Analysis*

PIP 102 -CO2: Apply appropriate techniques or modern tools for solving the intended problem. *Application*

PIP 102 -CO3: Design the experiments as per the standards and specifications. *Synthesis*

PIP 102 -CO4: Interpret the events and results for meaningful conclusions. *Analysis*

PIP 102 -CO5: Appraise project findings and communicate effectively through scholarly publications. *Analysis*

33. **Course Name:** Digital Land Surveying and Mapping (DE)

Course Code: CIV226

CIV226-CO1: Explain the principle of GPS and processing of GPS data. *Knowledge*

CIV226-CO2: Illustrate the application of Total station in horizontal and vertical measurements. *Comprehension*

CIV226-CO3: Demonstrate the Digital Land Survey detailing. *Application*



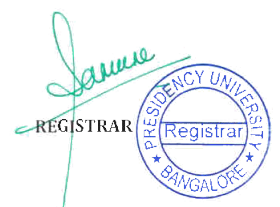
34. **Course Name:** Safety in Construction (DE)

Course Code: CIV227

CIV227-CO1: Identify the five elements environmental protection, safety, speed, economy, and aesthetics, and conform with a balanced regular pentagon. *Knowledge*

CIV227-CO2: Identify Three R's of Workplace Safety Monitoring- Report, Respond, and Review *Comprehension*

CIV227-CO3: Take Appropriate measures to improve safety at the site to prevent loss of limbs and life, suffering, and damage from preventable accidents *Application*



School Of Engineering
Department of Electronics and Communication Engineering

1. Course Name: Elements of Electronics Engineering

Course Code: ECE1001

ECE1001-CO1: Identify the various electrical and electronic components and significance of basic electrical laws. *Comprehension*

ECE1001-CO2: Explain applications of Diodes and BJTs. *Comprehension*

ECE1001-CO3: Summarize the concepts of Digital Electronics and Communication Systems. *Comprehension*

ECE1001-CO4: Discuss the basic concepts of microprocessor and computer organization. *Comprehension*

ECE1001-CO5: Perform experiments to familiarize various Electrical & Electronic components and equipment. *Comprehension*

ECE1001-CO6: Verify Basic Electrical Circuit configurations and Laws. *Application*

2. Course Name: Analog Electronics

Course Code: ECE2001

ECE2001-CO1: Describe various fundamental parameters appearing in the characteristics of semiconductor devices and their applications. *Knowledge*

ECE2001-CO2: Illustrate the operations of different biasing configurations of BJTs and amplifiers. *Comprehension*

ECE2001-CO3: Explain various types, characteristics, and modes of FETs. *Comprehension*

ECE2001-CO4: Describe the operation of feedback amplifiers the working of various Oscillators. *Comprehension*

ECE2001-CO5: Demonstrate the working of electronic circuits to obtain the V-I Characteristics of various semiconductor devices. *Comprehension*

ECE2001-CO6: Implement to sketch the characteristics waveforms relevant to standard electronic circuits. *Application*

3. Course Name: Digital Design

Course Code: ECE2007

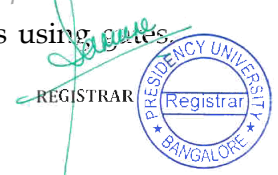
ECE2007-CO1: Describe the concepts of number systems, Boolean algebra and logic gates. *Knowledge*

ECE2007-CO2: Apply minimization techniques to simplify Boolean expressions. *Application*

ECE2007-CO3: Demonstrate the Combinational circuits for a given logic. *Application*

ECE2007-CO4: Demonstrate the Sequential and programmable logic circuits. *Application*

ECE2007-CO5: Implement various combinational and sequential logic circuits using gates. *Application*



4. Course Name: Linear Integrated Circuits

Course Code: ECE3001

ECE3001-CO1: Describe the block diagram and characteristics of op-amp *Comprehension*

ECE3001-CO2: Apply op-amp for various linear applications *Application*

ECE3001-CO3: Employ op-amp for various non-linear applications *Application*

ECE3001-CO4: Demonstrate various applications of op-amp using IC 741 *Application*

ECE3001-CO5: Illustrate astable and monostable multivibrator using timer IC 555 *Application*

5. Course Name: Analog Communication

Course Code: ECE3005

ECE3005-CO1: Differentiate the working principles of various amplitude modulation methods. *Understand*

ECE3005-CO2: Describe the techniques of frequency modulation to generate and detect FM waves. *Understand*

ECE3005-CO3: Summarize various Pulse Modulation techniques. *Understand*

ECE3005-CO4: Estimate the spectrum efficiency. *Understand*

ECE3005-CO5: Explain the concepts of multiplexing *Understand*

6. Course Name: Transmission Lines and Waveguides

Course Code: ECE3009

ECE3009-CO1: Understand the necessity and working of a transmission line *Comprehension*

ECE3009-CO2: Perform impedance matching using Smith chart and analytical methods *Application*

ECE3009-CO3: Find E and H fields inside a metallic rectangular waveguide using Maxwell's equations *Application*

7. Course Name: Computational Intelligence & Machine Learning [Discipline Elective - II]

Course Code: ECE3020

ECE3020-CO1: Analyze the fundamental concepts of neural networks *Comprehension*

ECE3020-CO2: Implement ML algorithms to regression, classification, clustering, and dimensionality reduction *Application*

ECE3020-CO3: Categorize the various pattern recognition techniques using machine learning into supervised and unsupervised. *Comprehension*



8. Course Name: Digital Image Processing [Discipline Elective – III]

Course Code: ECE3029

ECE3029-CO1: Review the fundamental concepts of a digital image processing system.
Comprehension

ECE3029-CO2: Analyze images in the frequency domain using various transforms *Analysis*

ECE3029-CO3: Evaluate the techniques for image enhancement and image restoration
Evaluation

ECE3029-CO4: Categorize various compression techniques *Comprehension*

9. Course Name: IoT: Architecture and Protocols [Discipline Elective – IV]

Course Code: ECE3075

ECE3075-CO1: Definition and characteristic of IOT, future of the technology, scope and Challenges *Comprehension*

ECE3075-CO2: IOT standard Architecture, IOT world forum (IOTWF) standardized architecture *Comprehension*

ECE3075-CO3: Choosing your Platform-Arduino, Rasberry Pi *Application*

ECE3075-CO4: Interfacing sensor with Arduino *Application*

10. Course Name: Intelligent Signal Processing

Course Code: CSA3056

CSA3056-CO1: Relate the basic concepts of signal processing and how to apply these concepts for Compression and Networking. *Comprehension*

CSA3056-CO2: Employ Model Based Signal Processing for audio, image and video processing. *Application*

CSA3056-CO3: Apply different signal processing techniques for audio and video compression. *Application*

CSA3056-CO4: Employ simple movement and face detection systems that work with live camera input *Application*

11. Course Name: Digital Communication

Course Code: ECE3011

ECE3011-CO1: Discuss the subsystem components needed to build both wired and wireless digital communication systems. *Comprehension*

ECE3011-CO2: Describe various processes involved in the pulse code modulation and demodulation in wired communication. *Application*

ECE3011-CO3: Demonstrate various processes involved in digital modulation and demodulation in wireless communications. *Application*



ECE3011-CO4: Apply the concepts in power amplifier applications and to choose suitable antenna in digital communication. *Application*

ECE3011-CO5: Implement pulse code modulation technique to convert analog signal into binary data. *Application*

ECE3011-CO6: Carry out pulse code demodulation technique to convert binary data into analog signal. *Application*

12. Course Name: Information Theory and Coding

Course Code: ECE3012

ECE3012-CO1: Discuss the concept of dependent and independent source, measure of information, Entropy, rate of information and order of a source. *Comprehension*

ECE3012-CO2: Apply the information source using Shannon encoding, Shannon Fano, encoding and Huffman encoding algorithms. *Application*

ECE3012-CO3: Interpret the continuous and discrete communication channels using input, output and joint probabilities. *Application*

ECE3012-CO4: Illustration of a code word comprising of the check bits computed using linear block codes, cyclic codes and convolutional codes *Application*

13. Course Name: Microcontroller Applications

Course Code: ECE3014

ECE3014-CO1: Discuss the architecture and working principles of 8051 microcontrollers. *Comprehension*

ECE3014-CO2: Develop assembly language programming problems using coding and debugging skills *Application*

ECE3014-CO3: Apply timer-programming instructions to generate different timing signal, also use it as synchronizing factor in serial communication. *Application*

ECE3014-CO4: Interpret ALP/C program to realize various arithmetic and logical operations that can be carried in an ALU unit using instruction set *Application*

ECE3014-CO5: Demonstrate basic operations and Analyze the 8051 C Microcontroller interfacing with external hardware. *Application*

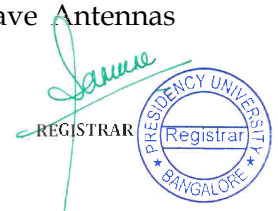
ECE3014-CO6: Understand the difference between Microcontrollers and ARM controller in terms of instruction set and processing *Comprehension*

14. Course Name: Antenna and Microwave Engineering

Course Code: ECE3112

ECE3112-CO1: Summarize the fundamental parameters and Radiation Pattern of Different Types of Antennas. *Comprehension*

ECE3112-CO2: Discuss the working and design of VHF, UHF and Microwave Antennas *Comprehension*



ECE3112-CO3: Analysis of how the electromagnetic wave propagates in different atmospheric conditions as a ground, space, sky wave *Analysis*

15. Course Name: Digital Image Processing [Discipline Elective – IV]

Course Code: ECE3029

ECE3029-CO1: Review the fundamental concepts of a digital image processing system. *Comprehension*

ECE3029-CO2: Analyze images in the frequency domain using various transforms *Analysis*

ECE3029-CO3: Evaluate the techniques for image enhancement and image restoration *Evaluation*

ECE3029-CO4: Categorize various compression techniques *Comprehension*

16. Course Name: Low Power VLSI Design [Discipline Elective – V]

Course Code: ECE3046

ECE3046-CO1: Identify the sources of power dissipation in CMOS integrated circuits. *Knowledge*

ECE3046-CO2: Illustrate different approaches of Low power design at circuit level. *Application*

ECE3046-CO3: Summarize issues in Low Power Design at circuit and logic levels. *Comprehension*

ECE3046-CO4: Explain leakage sources and reduction techniques. *Application*

17. Course Name: Biomedical Instrumentation [Discipline Elective – V]

Course Code: ECE3034

ECE3034-CO1: Summarize the basic instrumentation system *Knowledge*

ECE3034-CO2: Explain the principle of operation of the instruments used in Patient monitoring system and diagnosis *Comprehension*

ECE3034-CO3: Describe the concept of Electrocardiography, Electroencephalography, Electromyography and Electrooculography. *Comprehension*

ECE3034-CO4: Apply the obtained knowledge in designing the Modern imaging instruments used in BMI *Application*

18. Course Name: Applications of Deep Learning [Discipline Elective – V]

Course Code: ECE3031

ECE3031-CO1: Describe the basics of deep neural networks *Comprehension*

ECE3031-CO2: Understand the architecture of Convolutional Neural Layer *Comprehension*

ECE3031-CO3: Illustrate variants of Convolutional Neural Layer such as RNN, GAN *Comprehension*



ECE3031-CO4: Apply the deep learning concepts in real life scenarios *Application*

19. Course Name: Electronic Controlled Converters [Discipline Elective – V]

Course Code: ECE3016

ECE3016-CO1: Describe the features, principles and characteristics of power semiconductor devices *Knowledge*

ECE3016-CO2: Discuss the working of AC to DC controlled power converter *Comprehension*

ECE3016-CO3: Illustrate the operation of DC to DC power converter *Comprehension*

ECE3016-CO4: Summarize DC to AC power converters *Comprehension*

ECE3016-CO5: Explain the working of AC to AC power converter *Comprehension*

20. Course Name: Digital Signal Processing

Course Code: ECE3002

ECE3002-CO1: Define Matlab coding signal conversion to sequence *Knowledge*

ECE3002-CO2: Compute the digital signal processing concepts using matlab *Comprehension*

ECE3002-CO3: Review the applications of FFT to DSP. *Comprehension*

ECE3002-CO4: Compute simulation of DSP systems. *Comprehension*

21. Course Name: Fundamentals of Photonics

Course Code: ECE3022

ECE3022-CO1: To know the basics of solid-state physics and understand the nature and characteristics of light. *Knowledge*

ECE3022-CO2: To understand different light sources such as LED and laser types and their applications. *Comprehension*

ECE3022-CO3: To study different optical detection devices. *Comprehension*

ECE3022-CO4: To differentiate different photo modulator devices. *Comprehension*

22. Course Name: IoT Platforms and Application Development

Course Code: ECE3076

ECE3076-CO1: Explain the need and requirement for IoT Protocols. *Knowledge*

ECE3076-CO2: List the most popular platforms on which IoT is employed. *Comprehension*

ECE3076-CO3: Identify the networking requirements for a given IoT application *Comprehension*

ECE3076-CO4: Implement a given IoT scenario on a simulation platform. *Comprehension*



23. Course Name: Advanced Computer Networks

Course Code: ECE5003

ECE5003-CO1: Summarize the layers of OSI model, TCP/IP model associated with data communication and able to define its functions. *Comprehension*

ECE5003-CO2: Employ different types of protocols associated with each layer of OSI model and multiple access techniques. *Comprehension*

ECE5003-CO3: Demonstrate Ethernet based wired & wireless standards and different techniques for connecting networking devices for LANs, Virtual Networks & backbone networks. *Application*

ECE5003-CO4: Illustrate transport layer protocols and DNS protocols. *Application*

24. Course Name: IoT: Architecture and Protocols

Course Code: ECE3075

ECE3075-CO1: Definition and characteristic of IOT, future of the technology, scope and Challenges *Comprehension*

ECE3075-CO2: IOT standard Architecture, IOT world forum (IOTWF) standardized architecture *Comprehension*

ECE3075-CO3: Choosing your Platform-Arduino, Rasberry Pi *Application*

ECE3075-CO4: Interfacing sensor with Arduino *Application*

25. Course Name: Microprocessors and Microcontrollers

Course Code: ECE3111

ECE3111-CO1: Understand the fundamentals of 8086 microprocessors and 8051 microcontrollers. *Comprehension*

ECE3111-CO2: Construct assembly language programs using coding and debugging skills. *Application*

ECE3111-CO3: Write ALP/C programs for interfacing external hardware device like IC 8255(PPI) to 8086/8051. *Application*

26. Course Name: Embedded System Design

Course Code: ECE6001

ECE6001-CO1: Select Embedded Systems and the components needed to develop such systems. *Comprehension*

ECE6001-CO2: Distinguish various ARM architecture versions and processors *Comprehension*

ECE6001-CO3: Program ARM processors using Assembly Language and C Languages *Application*

ECE6001-CO4: Interface various and develop various real world embedded applications *Application*



ECE6001-CO5: Develop Embedded C programs for various real world applications
Application

27. Course Name: CMOS VLSI Design

Course Code: ECE6002

ECE6002-CO1: Describe the basics of VLSI design and understand the basic VLSI design flow, process flow and design methodologies. *Knowledge*

ECE6002-CO2: Explain the MOS transistor theory and various ideal and non-ideal characteristics of MOS transistors. *Comprehension*

ECE6002-CO3: Examine combinational and sequential circuits using Hardware Description Language. *Application*

ECE6002-CO4: Calculate the various design parameters of digital circuits using cadence tool. *Analysis*

28. Course Name: Advanced Digital System Design

Course Code: ECE5005

ECE5005-CO1: Summarize the minimization theories of Sequential Machines. *Comprehension*

ECE5005-CO2: Discover the sequential circuit using programmable devices. *Application*

ECE5005-CO3: Practice the techniques for fault modeling of digital systems. *Application*

ECE5005-CO4: Illustrate the various Fault diagnosis algorithm *Application*

29. Course Name: Software for Embedded Systems

Course Code: ECE5008

ECE5008-CO1: Summarize the concepts to develop software for real time embedded systems. *Comprehension*

ECE5008-CO2: Write efficient programs with IDE tools for embedded systems. *Application*

ECE5008-CO3: Demonstrate various programming steps using open source compilers and tools for embedded software development. *Application*

ECE5008-CO4: Explain various concepts of memory management, device drivers, timers and interrupt systems, interfacing of devices, communications and networking in embedded systems. *Synthesis*

30. Course Name: ASIC Design and Modelling

Course Code: ECE5009

ECE5009-CO1: Demonstrate the characteristic of ASICs with Programming technologies of Logic Devices *Application*



ECE5009-CO2: Summarize the physical design process utilized in the design of ASICs
Application

ECE5009-CO3: Analyze the faults and timing issues in the developed ASIC design *Analysis*

ECE5009-CO4: Classify the FPGA devices based on the architecture and design technology.
Analysis

31. Course Name: Professional Practice-II

Course Code: PIP102

PIP 102-CO1: Identify the engineering problems related to local, regional, national or global needs *Knowledge*

PIP 102-CO2: Apply appropriate techniques or modern tools for solving the intended problem
Application

PIP 102-CO3: Design the experiments as per the standards and specifications. *Synthesis*

PIP 102-CO4: Interpret the events and results for meaningful conclusions. *Synthesis*

PIP 102-CO5: Appraise project findings and communicate effectively through scholarly publications. *Evaluation*



School Of Engineering
Department of Electrical and Electronics Engineering

1. Course Name: Fundamentals of Electrical and Electronics Engineering

Course Code: EEE1001

EEE1001-CO1: Discuss the basic concepts of DC and AC circuits. *Comprehension*

EEE1001-CO2: Explain the basic theory and operation of DC and AC Machines *Comprehension*

EEE1001-CO3: Identify the use of electrical measurements and Instruments. *Comprehension*

EEE1001-CO4: Discuss the basic electronic components and its applications. *Comprehension*

EEE1001-CO5: Validate the basic laws of Electrical Engineering *Application*

EEE1001-CO6: Compute the various parameters in electrical and electronic circuits *Application*

2. Course Name: Digital Electronics

Course Code: EEE2015

EEE2015-CO1: Discuss the concepts of number systems, Boolean algebra, and logic gates
Comprehension

EEE2015-CO2: Apply minimization techniques to simplify Boolean expressions *Application*

EEE2015-CO3: Employ the Combinational circuits for a given logic *Application*

EEE2015-CO4: Illustrate the Sequential logic circuits *Application*

3. Course Name: Numerical Methods for Engineers

Course Code: MAT2003

MAT2003-CO1: Solve algebraic and transcendental equations numerically. *Application*

MAT2003-CO2: Use numerical techniques to differentiate and integrate functions. *Application*

MAT2003-CO3: Apply numerical methods to solve ordinary differential equations.
Application

4. Course Name: Opamps and Linear Integrated Circuits

Course Code: EEE2004

EEE2004-CO1: Explain the block diagram and characteristics of OP-AMPs. *Comprehension*

EEE2004-CO2: Classify linear and nonlinear applications of OP-AMPs. *Application*

EEE2004-CO3: Calculate the values of circuit components used for building various signal generators and multivibrators *Application*

EEE2004-CO4: Demonstrate the working of A/D & D/A converters and the function of application specific ICs such as Voltage regulators *Application*



EEE2004-CO5: Interpret the the practical experiment results with theoretical concepts of OPAMPs *Application*

5. Course Name: Microprocessor and Microcontrollers

Course Code: EEE2005

EEE2005-CO1: Describe the architectural features of microprocessors and microcontrollers. *Comprehension*

EEE2005-CO2: Explain the addressing modes, instruction set and I/O port programming of microcontroller *Comprehension*

EEE2005-CO3: Discuss the various timers/ counter operations. *Comprehension*

EEE2005-CO4: Discuss the programming and Interfacing of peripheral devices with microcontroller. *Comprehension*

EEE2005-CO5: Demonstrate various arithmetic operation, the Interrupt system, operation of Timers/Counters and Serial port of 8051 *Application*

EEE2005-CO6: Demonstrate the interfacing of the microcontroller to control some of the electric applications.. *Application*

6. Course Name: Electrical Machines-II

Course Code: EEE2017

EEE2017-CO1: Describe the principles of working, performance and applications of Three Phase and Single-Phase Induction Motor *Comprehension*

EEE2017-CO2: Relate phasor diagram, equivalent circuit and performance parameters from the Circle Diagram of 3 phase Induction Motor *Application*

EEE2017-CO3: Explain the principle, construction and performance of Alternator *Comprehension*

EEE2017-CO4: Summarize the features, excitations and applications of Synchronous Motor *Comprehension*

7. Course Name: Control Systems Engineering

Course Code: EEE2007

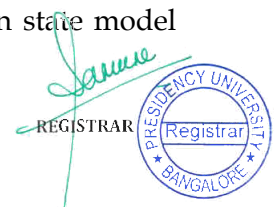
EEE2007-CO1: Express the transfer function for a variety of Electrical, Mechanical, Electromechanical systems using Signal Flow graphs *Comprehension*

EEE2007-CO2: Summarize the time domain specifications for various test input signals and stability conditions based on zeros and poles of transfer function. *Comprehension*

EEE2007-CO3: Apply different stability analysis techniques in time domain and frequency domain to know the nature of stability of the system. *Application*

EEE2007-CO4: Apply the compensation networks to improve the stability. *Application*

EEE2007-CO5: Discuss about the controllability and observability of the given state model *Comprehension*



8. Course Name: Electrical Machines Laboratory

Course Code: EEE2061

EEE2061-CO1: Perform different tests for calculating the performance parameters of electrical machines *Application*

EEE2061-CO2: Interpret the performance characteristics of electrical machines *Application*

EEE2061-CO3: Infer results after conducting suitable experiment of electrical machines *Application*

EEE2061-CO4: Summarize the procedure of conducting suitable tests for the given electrical machines *Application*

9. Course Name: Discipline Elective-II: Battery Management Systems

Course Code: EEE3036

EEE3036-CO1: Summarize the basic components and functionality of the Battery Management System *Comprehension*

EEE3036-CO2: Discuss various requirements and topologies of Battery Management System *Comprehension*

EEE3036-CO3: Explain various algorithms used in Battery Management System *Application*

EEE3036-CO4: Describe the Battery Management System of Electric Vehicles. *Application*

EEE3036-CO5: Describe the function of battery in electric vehicle application *Application*

10. Course Name: Being Corporate Ready

Course Code: PPS2002

PPS2002-CO1: Recognize the fundamental nuances of Corporate Etiquettes *Knowledge*

PPS2002-CO2: Express thoughts/opinions in an acceptable manner in group discussions *Comprehension*

PPS2002-CO3: Demonstrate effective presentation skills *Application*

11. Course Name: Electrical Drives

Course Code: EEE3001

EEE3001-CO1: Explain the dynamics of Electric Drives and multi-quadrant operation *Comprehension*

EEE3001-CO2: Select the power converter in control of d.c drive systems. *Comprehension*

EEE3001-CO3: Apply suitable control method in induction motor drives *Application*

EEE3001-CO4: Choose the proper Electric Drive system for energy conservation and industrial applications *Application*



12. Course Name: Switchgear and Protection

Course Code: EEE3003

EEE3003-CO1: Discuss the importance of protection in power systems. *Comprehension*

EEE3003-CO2: Explain the operation of fuses and switches in power system protection. *Comprehension*

EEE3003-CO3: Identify various types of circuit breakers and their mechanism of operation *Application*

EEE3003-CO4: Choose protective relaying schemes in conventional and modern relays *Application*

13. Course Name: Power System Analysis

Course Code: EEE3002

EEE3002-CO1: Apply the network modelling concept of power system for the given system *Application*

EEE3002-CO2: Apply GS/ NR methods to compute the load flow for given power system netbook. *Application*

EEE3002-CO3: Analyze the fault current in power system for different types of faults. *Application*

EEE3002-CO4: Describe the concept of stability of power system *Comprehension*

EEE3002-CO5: Explain the concept of contingency of power system. *Comprehension*

14. Course Name: Power System simulation lab

Course Code: EEE3061

EEE3061-CO1: Develop a program in MATLAB/ Mi-Power to assess the Y Bus, and Z Bus of the given power system network. *Analysis*

EEE3061-CO2: Inference the power flow solution of the given power system network by using the Mi-Power software package *Analysis*

EEE3061-CO3: Inference the fault analysis of the given power system network by using Mi-Power software package. *Analysis*

EEE3061-CO4: Demonstrate the stability analysis for the given power system network by using Mi-Power software package *Application*

EEE3061-CO5: Illustrate the economic load dispatch for the given power system *Analysis*

EEE3061-CO6: Examine the severity of the system by conducting contingency study for a given power system network. *Analysis*

15. Course Name: Electrical Power Utilization

Course Code: EEE3031



EEE3031-CO1: Identify heating and welding scheme for a given application. *Comprehension*

EEE3031-CO2: Choose various lamps according to its fittings in different lighting schemes. *Application*

EEE3031-CO3: Explain different traction schemes and its main components. *Comprehension*

EEE3031-CO4: Compute tractive effort for different driving conditions. *Application*

16. Course Name: Electrical CAD laboratory

Course Code: EEE2064

EEE2064-CO1: Develop the armature winding of both DC and AC Machine *Application*

EEE2064-CO2: Develop the layout of Generating Stations and Substations *Application*

EEE2064-CO3: Develop the sectional views of transformers, DC machine and alternator. *Application*

EEE2064-CO4: Sketch the plan/layout of domestic/commercial wiring. *Application*

17. Course Name: Discipline Elective-IV:Flexible A. C Transmission Systems (FACTS)

Course Code: EEE3021

EEE3021-CO1: Summarize various compensators suited for various power system purposes. *Comprehension*

EEE3021-CO2: Discuss about the converter configuration for different power systems applications such as HVDC, FACTS etc. *Comprehension*

EEE3021-CO3: Apply the control schemes of the power system with different shunt and series compensators. *Application*

EEE3021-CO4: Select the suitable FACTS devices for specific Power System applications *Application*

18. Course Name: Discipline Elective-V: Sensors and Transducers

Course Code: EEE3046

EEE3046-CO1: Explain the usage of gauges and transducers to measure pressure, direction and distance. *Comprehension*

EEE3046-CO2: Discuss the use of light transducers and other devices used for the measurement of electromagnetic radiations. *Comprehension*

EEE3046-CO3: Summarize the working of different temperature sensing devices *Comprehension*

EEE3046-CO4: Choose the suitable electronic sensors for various applications *Application*

19. Course Name: Professional Practice-II

Course Code: PIP102



PIP 102-CO1: Identify the engineering problems related to local, regional, national or global needs *Knowledge*

PIP 102-CO2: Apply appropriate techniques or modern tools for solving the intended problem *Application*

PIP 102-CO3: Design the experiments as per the standards and specifications. *Synthesis*

PIP 102-CO4: Interpret the events and results for meaningful conclusions. *Synthesis*

PIP 102-CO5: Appraise project findings and communicate effectively through scholarly publications. *Evaluation*

20. Course Name: OE:Mathematical Modelling: Analysis & Applications

Course Code: EEE335

EEE335-CO1: Solve discrete time linear models using different methods *Application*

EEE335-CO2: Analyze the stability of discrete time nonlinear models *Analysis*

EEE335-CO3: Apply continuous time models for the solution of first order first degree ODE. *Application*

EEE335-CO4: Analyze qualitative solution of differential equations using phase diagrams *Analysis*

21. Course Name: OE:Electronic Waste Management- Issues and Challenges

Course Code: EEE336

EEE336-CO1: Explain the importance of overall scenario of E-Waste management in India *Comprehension*

EEE336-CO2: Summarize the effects of recycling and management of Electronic Waste on human health, environment and society. *Comprehension*

EEE336-CO3: Estimate the e-waste generation and disposition quantities related to entire india. *Comprehension*

EEE336-CO4: Determine the energy intensity calculations *Comprehension*

22. Course Name: Signals and Systems

Course Code: EEE2001

EEE2001-CO1: Identify different types of signals and systems based on their properties *Comprehension*

EEE2001-CO2: Summarize the behaviour of LTI systems to periodic and aperiodic signals using Fourier Transforms *Comprehension*

EEE2001-CO3: Discuss the transform- domain signal and frequency response using DFT *Comprehension*

EEE2001-CO4: Classify techniques of dealing with discrete systems using the z-transform *Comprehension*



23. Course Name: Microcontroller Applications

Course Code: EEE3051

EEE3051 -CO1: Identify the architectural features of microcontrollers *Comprehension*

EEE3051 -CO2: Explain functions of each block of 8051 microcontroller. the addressing modes, instruction set and I/O port programming of microcontroller. *Comprehension*

EEE3051 -CO3: Discuss the programming and Interfacing of peripheral devices with microcontroller. *Comprehension*

EEE3051 -CO4: Employ Arduino board to interface with sensors. *Application*

24. Course Name: Professional Practice-III

Course Code: PIP103

PIP103-CO1: Identify the engineering problems related to local, regional, national or global needs. *Knowledge*

PIP103-CO2: Apply appropriate techniques or modern tools for solving the intended problem. *Application*

PIP103-CO3: Design the experiments as per the standards and specifications. *Synthesis*

PIP103-CO4: Interpret the events and results for meaningful conclusions. *Synthesis*

PIP103-CO5: Appraise project findings and communicate effectively through scholarly publications. *Evaluation*



School Of Engineering
Department of Learning and Development

1. Course Name: Soft skills for Engineers

Course Code: PPS1002

PPS1002-CO1: Employ effective communication skills *Application*

PPS1002-CO2: Practice questioning techniques for better decision making *Application*

PPS1002-CO3: Differentiate individual strengths and weaknesses for self-awareness and stress management *Comprehension*

PPS1002-CO4: Recognise the need to set SMART GOALS *Comprehension*

2. Course Name: Corporate Readiness

Course Code: PPS2002

PPS2002-CO1: Recognize the fundamental nuances of Corporate Etiquettes *Knowledge*

PPS2002-CO2: Express thoughts/opinions in an acceptable manner in group discussions *Comprehension*

PPS2002-CO3: Demonstrate effective presentation skills *Application*

3. Course Name: Introduction to soft skills

Course Code: PPS1001

PPS1001-CO1: Recognize significance of soft skills *Comprehension*

PPS1001-CO2: Create impressive professional social media profile *Application*

PPS1001-CO3: List techniques of forming healthy habits *Application*

PPS1001-CO4: Understand styles of effective communication *Analysis*

4. Course Name: Introduction to Aptitude

Course Code: PPS4002

PPS4002-CO1: Recall all the basic mathematical concepts they learnt in high school. *Knowledge*

PPS4002-CO2: Identify the principle concept needed in a question. *Comprehension*

PPS4002-CO3: Solve the quantitative and logical ability questions with the appropriate concept. *Application*

PPS4002-CO4: Analyze the data given in complex problems. *Analysis*

PPS4002-CO5: Rearrange the information to simplify the question *Evaluation*

5. Course Name: Work place skills for Lawyers

Course Code: PPS3016



PPS3016-CO1: Demonstrate quick thinking skills. *Application*

PPS3016-CO2: Define Conflict Resolution. *Analysis*

PPS3016-CO3: Select strategy to resolve conflict.

Comprehension

PPS3016-CO4: Analyze information critically. *Application*

6. **Course Name:** Work place skills for Designers

Course Code: PPS3017

PPS3017-CO1: Practice empathy *Comprehension*

PPS3017-CO2: Recognize the importance of collaboration. *Comprehension*

PPS3017-CO3: Apply techniques to manage time effectively *Application*

PPS3017-CO4: Recognize the need to be flexible. *Comprehension*

7. **Course Name:** Interview Skills

Course Code: PPS3012

PPS3012-CO1: Recognize one's strengths in order to effectively set goals *Comprehension*

PPS3012-CO2: Prepare professional resumes *Application*

PPS3012-CO3: Apply skills and knowledge learnt for active and effective group discussions.
Application

PPS3012-CO4: Show interview readiness *Application*

8. **Course Name:** Personality Development-Intermediate

Course Code: PPS2010

PPS2010-CO1: Demonstrate confidence and effective communication *Application*

PPS2010-CO2: Prepare professional LinkedIn account and build business networks
Application

PPS2010-CO3: Recognize problem solving skills *Comprehension*

PPS2010-CO4: Discuss emotional intelligence components *Comprehension*

9. **Course Name:** Soft Skills for Designers

Course Code: PPS1004

PPS1004-CO1: Employ effective communication skills *Application*

PPS1004-CO2: Practice questioning techniques for better decision making *Application*



PPS1004-CO3: Differentiate individual strengths and weaknesses for self-awareness and stress management *Comprehension*

PPS1004-CO4: Recognise the need to set SMART GOALS *Comprehension*

10. Course Name: Soft Skills for Lawyers

Course Code: PPS1005

PPS1005-CO1: Employ effective communication skills *Application*

PPS1005-CO2: Practice questioning technique for better decision making *Application*

PPS1005-CO3: Differentiate individual strengths and weaknesses for self-awareness and stress management *Comprehension*

PPS1005-CO4: Recognise the need to set SMART GOALS *Comprehension*

PPS1005-CO5: Practice the effective Time Management techniques. *Application*

11. Course Name: Employability for Young Professionals

Course Code: PPS1006

PPS1006-CO1: Show effective communication skills *Application*

PPS1006-CO2: Analyse information through questioning technique for better decision making *Application*

PPS1006-CO3: Identify individual strengths and weaknesses for self-awareness and stress management *Comprehension*

PPS1006-CO4: Apply SMART technique to achieve goals and increase productivity *Comprehension*

12. Course Name: Soft Skills for Journalists

Course Code: PPS1007

PPS1007-CO1: Employ effective communication skills *Application*

PPS1007-CO2: Practice questioning techniques for better decision making *Application*

PPS1007-CO3: Differentiate individual strengths and weaknesses for self-awareness and stress management *Comprehension*

PPS1007-CO4: Recognise the need to set SMART GOALS *Comprehension*



**School Of Engineering
Department of Languages**

1. Course Name: Advanced English

Course Code: ENG2001

ENG2001-CO1: Develop a critical and informed response reflectively, analytically, discursively, and creatively to their reading. *Application*

ENG2001-CO2: Comprehend and communicate effectively, creatively, accurately and appropriately in their writing. *Application*

ENG2001-CO3: Deliver technical presentations *Application*

ENG2001-CO4: Compose digital resume to find a suitable career *Application*

2. Course Name: Business English

Course Code: ENG2002

ENG2002-CO1: Use appropriate language in writing different kinds of business correspondence, such as e-mails, memos and circulars. *Comprehension*

ENG2002-CO2: Employ skills to efficiently and confidently handle business meetings and presentations. *Comprehension*

ENG2002-CO3: Write effectively for Websites, Blogs, Social media and also produce Product and Service descriptions. *Application*

ENG2002-CO4: Demonstrate effective understanding of business reports and articles *Comprehension*

3. Course Name: Professional English

Course Code: ENG2003

ENG2003-CO1: Define convincing ability through speaking. *Knowledge*

ENG2003-CO2: Paraphrase the main ideas and supporting details from the author's point of view *Comprehension*

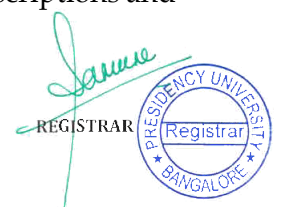
ENG2003-CO3: Extrapolate audiences with rational arguments and persuasion. *Comprehension*

ENG2003-CO4: Employ new possibilities in a collaborative environment *Application*

4. Course Name: Technical Written Communication

Course Code: ENG2005

ENG2005-CO1: Apply strategies and techniques for organizing and drafting descriptions and specifications. *Comprehension*



ENG2005-CO2: Develop techniques for organizing and drafting descriptions and specifications. *Application*

ENG2005-CO3: Transcribe technical/professional emails, letters and memorandums
Application

5. Course Name: Writing for the Web

Course Code: ENG2007

ENG2007-CO1: Identify the basics of web writing and the editorial standards of writing
Knowledge

ENG2007-CO2: Use different styles of writing required for developing content for different forms of the media *Application*

ENG2007-CO3: Apply principles of good web writing on digital platforms *Application*

ENG2007-CO4: Demonstrate the ability to write effectively for various Social Media platforms
Application

6. Course Name: Reading Advertisements

Course Code: ENG1009

ENG1009-CO1: Review print and digital advertisements *Comprehension*

ENG1009-CO2: Interpret advertisements by inferring the content *Application*

ENG1009-CO3: Apply effective strategies to create advertisements *Application*

ENG1009-CO4: Prepare content for digital advertisements *Application*

7. Course Name: Thili Kannada

Course Code: KAN2001

KAN2001-CO1: The course helps to improve the thoughts and insights on changes of the era through short stories in Kannada. *Knowledge*

KAN2001-CO2: It develops discussion ability through social, political, religious, cultural and sexual matters. *Comprehension*

KAN2001-CO3: It helps to co relate life related subject with agriculture, commercial, technical related skills. *Application*

KAN2001-CO4: Helps to manage the conjecture and problem of life in kind manner *Analysis*

8. Course Name: Kali Kannada

Course Code: KAN1001

KAN1001-CO1: Read and write Alphabet and few words with phonetic sound ; understand and express Kannada language for social interaction and basic reading capacity *Comprehension*



KAN1001-CO2: Understand, communicate and use different vocabulary basic Kannada expose to know about others perspectives. *Knowledge*

KAN1001-CO3: Understand simple kannada in the different contexts *Knowledge*

KAN1001-CO4: Respect the Regional Language and Culture *Application*

9. **Course Name:** Basic French

Course Code: FRL1002

FRL1002-CO1: use basic french grammar, vocabulary, and conjugation *Knowledge*

FRL1002-CO2: apply basic strategies of the basics of french languages in LRWS skills
Comprehension

FRL1002-CO3: use of french on everyday topics such as greetings, asking and giving information, directions, time ... *Application*

FRL1002-CO4: Communicate and interact with other french speakers in different situations
Application



School Of Engineering
Department of Mathematics

1. Course Name: Numerical Methods for Engineers

Course Code: MAT2003

MAT2003-CO1: Solve algebraic and transcendental equations numerically. *Application*

MAT2003-CO2: Use numerical techniques to differentiate and integrate functions. *Application*

MAT2003-CO3: Apply numerical methods to solve ordinary differential equations.
Application

2. Course Name: Graph Theory

Course Code: MAT2028

MAT2028-CO1: Discuss the fundamental concepts of Graph theory and able to analyze different structures by using isomorphism. *Comprehension*

MAT2028-CO2: Discuss the special graphs and able to understand the concept of colorings in graph theory. *Comprehension*

MAT2028-CO3: Apply different types of structures of trees for developing programming skills. *Application*

MAT2028-CO4: Apply different algorithms to find optimal path for a given graph. *Application*

3. Course Name: Statistical Methods and Techniques

Course Code: MAT1006

MAT1006-CO1: Recognize the different techniques of graphical representation of statistical data. *Comprehension*

MAT1006-CO2: Predict the characteristics of statistical data with the help of measures of central *Application*

MAT1006-CO3: Interpret the symmetry of a data set with the help of measures of skewness and kurtosis *Analysis*

MAT1006-CO4: Employ suitable formulae for solving problems pertaining to the basic probability, additive and multiplicative laws for both independent and dependent events. *Application*

4. Course Name: Fundamental Calculus

Course Code: MAT1010

MAT1010-CO1: Comprehend various mean value theorems and indeterminate forms.
Knowledge



MAT1010-CO2: Understand the concept of multivariate functions and their applications
Knowledge

MAT1010-CO3: Apply the methods of integral calculus to evaluate integrals. *Knowledge*

MAT1010-CO4: Demonstrate the knowledge of partial derivatives and their applications.
Knowledge

5. Course Name: Operations research

Course Code: BSE2006

BSE2006-CO1: formulate real life problems into a mathematical programming problem.
Comprehension

BSE2006-CO2: solve linear programming problems using Simplex and dual-simplex methods and use these methods to solve real-life problems. *Comprehension*

BSE2006-CO3: adopt various techniques concerning the transportation and assignment problems and use these tools to solve real-life problems. *Application*

BSE2006-CO4: apply PERT and CPM techniques to solve real-life network problems.
Application

BSE2006-CO5: employ various inventory control techniques and use these methods to solve practical problems. *Application*

6. Course Name: Optimization Techniques

Course Code: OE145

OE 145-CO1: To create analytical ability among students by using Mathematical techniques and decision making ability. *Knowledge*

OE 145-CO2: To formulate a linear programming problem and solve it graphically. *Application*

OE 145-CO3: To solve problems based on transportation, Decision Theory & Networks.
Application

7. Course Name: Applied Statistics

Course Code: MAT1003

MAT 1003 -CO1: Apply the techniques of descriptive statistics effectively *Application*

MAT 1003 -CO2: Interpret the ideas of probability and conditional probability *Application*

MAT 1003 -CO3: Demonstrate the knowledge of probability distributions *Application*

MAT 1003 -CO4: Compute statistical parameters, correlation and regression, probability using R software *Application*

8. Course Name: Discrete Mathematical Structures

Course Code: MAT2004



MAT 2004-CO1: Explain logical sentences through predicates, quantifiers and logical connectives. *Comprehension*

MAT 2004-CO2: Comprehend the basic principles of set theory and different types of relations. *Comprehension*

MAT 2004-CO3: Elucidate the concepts of lattices and Boolean algebra.
Comprehension

MAT 2004-CO4: Deploy the counting techniques to tackle combinatorial problems.
Application

9. Course Name: Advanced Engineering Mathematics

Course Code: MAT5001

MAT5001-CO1: Explain the concepts of vector spaces and linear transformations.
Comprehension

MAT5001-CO2: Solve linear and nonlinear algebraic, transcendental and differential equations by means of numerical methods. *Application*

MAT5001-CO3: Demonstrate the use of optimization techniques to deal with real-life problems. *Application*

MAT5001-CO4: Employ PERT and CPM techniques to tackle network problems. *Application*

10. Course Name: Optimization for Data Science

Course Code: CSE3037

CSE 3037-CO1: Employ machine learning model for learning classification and prediction
Application

CSE 3037-CO2: Apply convex models for optimisation, regression and classification
Application

CSE 3037-CO3: Explain the performance of convex optimisation algorithms *Comprehension*

CSE 3037-CO4: Solve appropriate distance metrics and optimization techniques
Comprehension

11. Course Name: Mathematics for Engineers

Course Code: MAT2071

MAT 2071-CO1: Demonstrate the application of matrix principles to obtain the different forms of a square matrix. *Comprehension*

MAT 2071-CO2: Apply the concepts solution of partial derivatives for two variable functions
Solve the integral functions of one, two and three variables
Application

MAT 2071-CO3: Apply Laplace transform and inverse Laplace transform technique to solve differential equations and Express the continuous functions in terms of Fourier transform.
Application



MAT 2071-CO4: Employ z-transform technique to solve difference equations. *Application*

MAT 2071-CO5: Solve ordinary and partial differential equations analytically. *Application*



School Of Engineering
Department of Mechanical Engineering

1. Course Name: Professional Practice-II

Course Code: PIP102

PIP 102-CO1: Identify the engineering problems related to local, regional, national or global needs *Knowledge*

PIP 102-CO2: Apply appropriate techniques or modern tools for solving the intended problem *Application*

PIP 102-CO3: Design the experiments as per the standards and specifications. *Synthesis*

PIP 102-CO4: Interpret the events and results for meaningful conclusions. *Synthesis*

PIP 102-CO5: Appraise project findings and communicate effectively through scholarly publications. *Evaluation*

2. Course Name: Manufacturing Guidelines for Product Design

Course Code: MEC332

MEC332-CO1: Describe the fundamentals of manufacturing process and its applications. *KNOWLEDGE*

MEC332-CO2: To understand Design Guidelines for Sand Casting, Design Guidelines for Die Casting Process. *KNOWLEDGE*

MEC332-CO3: To understand Design Guidelines for Welding, Brazing and Soldering Spin Welding, Plastics, Microwave Joining *KNOWLEDGE*

MEC332-CO4: To understand Design Guidelines for Sheet Metal Working, Design Guidelines for Machining, Design Guidelines for Powder Metal Processing. *KNOWLEDGE*

3. Course Name: Product Engineering & Design Thinking

Course Code: MEC333

MEC333-CO1: Solve problems on product design specifications *Comprehension*

MEC333-CO2: Generate conceptual design for concepts *Comprehension*

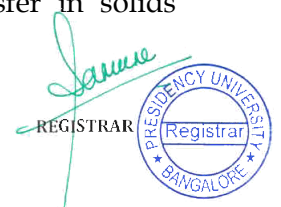
MEC333-CO3: Interpret solutions to product architecture and eco design. *Comprehension*

MEC333-CO4: Analyze the design thinking steps for complex designs *Comprehension*

4. Course Name: Heat and Mass Transfer

Course Code: MEC3003

MEC 3003-CO1: Apply the concept of steady state conduction heat transfer in solids *APPLICATION*



MEC 3003-CO2: Employ the methods to calculate heat transfer with effective resistance
APPLICATION

MEC 3003-CO3: Compute the heat transfer coefficient for natural and forced convection
APPLICATION

MEC 3003-CO4: Apply the concept of free and forced convection *APPLICATION*

5. Course Name: Mechatronics

Course Code: MEC3006

MEC 3006-CO1: Describe the fundamentals of mechatronic system and its applications.
KNOWLEDGE

MEC 3006-CO2: Identify the types of sensors, transducers and signal conditioning processes used in automated machines *COMPREHENSION*

MEC 3006-CO3: Identify the types of sensors, transducers and signal conditioning processes used in automated machines *COMPREHENSION*

MEC 3006-CO4: Describe logic gates and working of controllers. *COMPREHENSION*

6. Course Name: Production & Operations Management

Course Code: MEC3068

MEC 3068-CO1: Recognize the importance of production management in industry
Comprehension

MEC 3068-CO2: Describe Facility location problems and aggregate planning *Knowledge*

MEC 3068-CO3: Solve problems in sequencing and Scheduling in production environment
Application

MEC 3068-CO4: Summarize the various modern production management tools
Comprehension

7. Course Name: I C Engines & Fuels

Course Code: MEC4009

MEC 4009-CO1: Understand basic concepts of Internal Combustion Engines and fossil fuels.
Knowledge

MEC 4009-CO2: Understand the need and production methods of liquid and gaseous alternate fuels *Knowledge*

MEC 4009-CO3: Explain the stages of combustion in both SI and CI Engines and their Knocking processes. *Comprehension*

MEC 4009-CO4: Know different Emission Control packages and latest Emission Norms.
Knowledge

8. Course Name: Design of Machine Elements-II

Course Code: MEC4007



MEC 4007-CO1: Select belts, ropes and chains for different engineering applications
Application

MEC 4007-CO2: Compute dimensions and stresses in different types of springs for different applications
Application

MEC 4007-CO3: Compute gear specifications for various engineering applications, *Application*

MEC 4007-CO4: Determine specifications for brakes and clutches used in practice *Application*

MEC 4007-CO5: Select lubricants and bearings for various applications *Application*

9. **Course Name:** Discipline Elective – IV (Mechanics of Composite Material)

Course Code: MEC3049

MEC3049-CO1: Describe the various techniques of manufacturing metal matrix and fiber reinforced composites. *KNOWLEDGE*

MEC3049-CO2: Compute the Various Elastic Properties Using the Micromechanics Principle.
APPLICATION

MEC3049-CO3: Compute the Various Elastic Properties Using the Macromechanics Principle.
APPLICATION

MEC3049-CO4: Describe the Various Failure Theories and Methods Involved in Recycling of Composite Materials. *APPLICATION*

10. **Course Name:** Mechanisms, Machines and Design Lab

Course Code: MEC4008

MEC 4008-CO1: To Practically relate to concepts discussed in Design of Machine Elements, Mechanical Vibrations & Dynamics of Machines courses *Knowledge*

MEC 4008-CO2: To identify forces and moments in mechanical system components and identify vibrations in machine elements and design appropriate damping methods
Comprehension

MEC 4008-CO3: To understand the working Principles of machine elements such as Governors, Gyroscopes and measure strain in various machine elements using strain gauges
Comprehension

MEC 4008-CO4: Perform the journal bearing experiments and record the observation
Comprehension

11. **Course Name:** Product Life Cycle Management

Course Code: MEC4010

MEC 4010-CO1: Describe different processes associated with Product Lifecycle.
KNOWLEDGE

MEC 4010-CO2: Describe environment, drivers and PLM elements. *KNOWLEDGE*

MEC 4010-CO3: Deploy Engineering Change Management process. *Application*



MEC 4010-CO4: Design Bill of Materials and Digital Mock up *Evaluation*

MEC 4010-CO5: Deployment of Work flow on Teamcenter. *Application*

MEC 4010-CO6: Evaluate the PLM strategy developed. *Synthesis*

12. Course Name: Material and Characterisation Techniques

Course Code: MEC3012

MEC3012-CO1: Identify the different engineering materials and associated properties
Knowledge

MEC3012-CO2: Choose appropriate microscopy techniques to investigate microstructure of materials at high resolution. *COMPREHENSION*

MEC3012-CO3: Explain the material composition and their phases using diffraction techniques. *COMPREHENSION*

13. Course Name: Design and Analysis of Experiments

Course Code: MEC3008

MEC3008-CO1: Identify and infer data statistically *Application*

MEC3008-CO2: Select influencing factors, levels and response variable. *Application*

MEC3008-CO3: Choose appropriate design of experiments *Application*

MEC3008-CO4: Interpret ANOVA results and identify significant factors that influence the experiments *Application*

14. Course Name: Modern Manufacturing Processes

Course Code: MEC3040

MEC 3040-CO1: Distinguish the various methods of manufacturing processes *Knowledge*

MEC 3040-CO2: Discuss the principles, processes and applications of Advanced Machining & Casting Processes *Comprehension*

MEC 3040-CO3: Discuss the principles, processes and applications of Advanced Welding & Metal Forming Processes *Comprehension*

MEC 3040-CO4: Apply the various Lean Principles & Lean Techniques that can be applied to industries for improving organizational performance *Application*

15. Course Name: Computer Integrated Manufacturing

Course Code: MEC3034

MEC 3034-CO1: Scope of CIM in industry *Knowledge*

MEC 3034-CO2: Describe the usage of automated flow lines *Comprehension*

MEC 3034-CO3: Summarize the working of GT concepts *Comprehension*

MEC 3034-CO4: Write APT part programs in machining process *Application*



MEC 3034-CO5: Describe the process planning concepts used i *Comprehension*

16. Course Name: Supply Chain Management

Course Code: MEC2003

MEC 2003-CO1: Summarize the drivers and their role in the performance of Supply Chain. *Comprehension*

MEC 2003-CO2: Construct Supply Chain Network according to the requirement of any particular type of product *Application*

MEC 2003-CO3: Solve forecasting and inventory related issues in Supply Chain in practice *Application*

MEC 2003-CO4: Estimate transportation requirements of global product in real life *Comprehension*

MEC 2003-CO5: Interpret the impact of future technologies in Supply Chain Management. *Application*

17. Course Name: Numerical Methods for Engineers

Course Code: MAT2003

MAT 2003-CO1: Solve algebraic and transcendental equations numerically. *Application*

MAT 2003-CO2: Use numerical techniques to differentiate and integrate functions. *Application*

MAT 2003-CO3: Apply numerical methods to solve ordinary differential equations. *Application*

18. Course Name: Kinematics of Machines

Course Code: MEC4002

MEC 4002-CO1: Describe the mobility analysis on planar mechanisms *Comprehension*

MEC 4002-CO2: Explain the inversions of basic mechanisms. *Comprehension*

MEC 4002-CO3: Construct the velocity and acceleration profile of kinematic analysis on planar *Application*

MEC 4002-CO4: Study the outline profile of the cam to get desired performance and gear *Application*

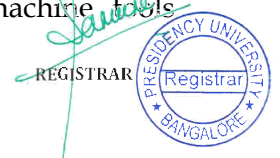
19. Course Name: Production Techniques-I

Course Code: MEC2013

MEC 2013-CO1: Classify metal casting process and its types, metal joining process and its types. *KNOWLEDGE*

MEC 2013-CO2: Explain various metal forming and extrusion process. *Comprehension*

MEC 2013-CO3: Discuss different machining operations using diverse machine tools. *Comprehension*



MEC 2013-CO4: Demonstrate various skills in preparation of molding sand for conducting tensile, shear and compression tests using Universal sand testing machine *Application*

MEC 2013-CO5: Demonstrate skills in preparation of forging models. *Application*

20. **Course Name:** Metrology and Mechanical Measurements

Course Code: MEC2015

MEC 2015-CO1: Explain different measuring instruments to measure the qualitative and quantitative characteristics of different mechanical components and identify the measuring instruments suitable for Tool room applications *COMPREHENSION*

MEC 2015-CO2: Evaluate quality of fit and their tolerance in machine and instruments. *Application*

MEC 2015-CO3: Brief the study of the terminologies of gears and screw thread. *COMPREHENSION*

21. **Course Name:** Applied Thermodynamics

Course Code: MEC4003

MEC 4003-CO1: Apply the first law and second law of thermodynamics to analyses the reciprocating internal combustion engine. *Application*

MEC 4003-CO2: Apply the first law and second law of thermodynamics to analyses the gas turbine. *Application*

MEC 4003-CO3: Apply the first law and second law of thermodynamics to analyses the vapor power cycle. *Application*

MEC 4003-CO4: Apply the first law and second law of thermodynamics to analyses the refrigeration cycle. *Application*

22. **Course Name:** Mechatronics

Course Code: MEC3006

MEC 3006-CO1: Describe the fundamentals of mechatronic system and its applications *Knowledge*

MEC 3006-CO2: Identify the types of sensors, transducers and signal conditioning processes used in automated machines. *Comprehension*

MEC 3006-CO3: Recognize sequencing schedule for a specific process using various actuating systems. *Comprehension*

MEC 3006-CO4: Describe logic gates and working of controllers. *Comprehension*

23. **Course Name:** Discipline Elective-III[Flexible Manufacturing System]

Course Code: MEC3036

MEC 3036-CO1: Explain the function of NC, CNC and DNC machines *Knowledge*



MEC 3036-CO2: Discuss the Quantitative aspects of FMS. *Comprehension*

MEC 3036-CO3: Explain the Machine cell design and part families. *Comprehension*

MEC 3036-CO4: Describe the various production control issues and tool management. *Comprehension*

MEC 3036-CO5: CO5 Explain the economic aspects and justification of FMS. *Application*

24. Course Name: Being Corporate Ready

Course Code: PPS2002

PPS 2002-CO1: Recognize the fundamental nuances of Corporate Etiquettes *Knowledge*

PPS 2002-CO2: Express thoughts/opinions in an acceptable manner in group discussions *Comprehension*

PPS 2002-CO3: Demonstrate effective presentation skills *Application*

25. Course Name: Nanotechnology

Course Code: MEC3009

MEC 3009-CO1: Recognize the basic properties of Nano materials *Knowledge*

MEC 3009-CO2: Distinguish between various Nano material perspectives applicable to Nano technology *COMPREHENSION*

MEC 3009-CO3: Summarize the effect of Nano fluids on the boiling heat transfer. *COMPREHENSION*

MEC 3009-CO4: Identify the processing techniques involved in investigation of Nano technology. *COMPREHENSION*

26. Course Name: Statistics and Quality Control

Course Code: MEC3016

MEC 3016-CO1: Explains the basic concept of Quality, Quality tools *Comprehension*

MEC 3016-CO2: Analyze process capability and operating characteristic curves *Analysis*

MEC 3016-CO3: Construct control charts and evaluate revised control limits *Application*

MEC 3016-CO4: Describe Six sigma methodology to improve quality *Knowledge*

27. Course Name: Rapid Tooling and Industrial Applications

Course Code: MEC3023

MEC 3023-CO1: Understand and use techniques for the processing of CAD models for rapid prototyping. *Knowledge*

MEC 3023-CO2: Understand and apply the fundamentals of rapid prototyping techniques. *Comprehension*

MEC 3023-CO3: Use appropriate tooling for the rapid prototyping process *Comprehension*



MEC 3023-CO4: Apply rapid prototyping techniques for reverse engineering. *Comprehension*

MEC 3023-CO4: Apply rapid prototyping techniques . *Comprehension*

28. Course Name: Reliability Engineering

Course Code: MEC3010

MEC3010-CO1: Describe engineering fundamentals to different types of maintenance
Knowledge

MEC3010-CO2: Analyze the impact of reliability of an equipment with the help of failure data analysis *Application*

MEC3010-CO3: Analyze the components of a mechanical system using equipment's system reliability *Application*

MEC3010-CO4: Explain maintainability & availability concepts *Comprehension*

29. Course Name: Hydraulics & Pneumatics

Course Code: MEC3062

MEC3062-CO1: Describe the fundamentals of Hydraulic Power Pumps, Actuators and Motors. *KNOWLEDGE*

MEC3062-CO2: Explain control components in Hydraulic Systems *Comprehension*

MEC3062-CO3: Solve the numerical problems related to hydraulic efficiency of motors
Comprehension

MEC3062-CO4: Describe the fundamentals of pneumatic system, Actuators, Valves, Pneumatic circuits and logic circuits. *KNOWLEDGE*

30. Course Name: Engineering Graphics

Course Code: MEC1006

MEC 1006-CO1: Demonstrate competency using AutoCAD graphics software as per BIS conventions and standards. *Comprehension*

MEC 1006-CO2: Comprehend the theory of projection for drawing projections of Points, Lines and Planes under different conditions. *APPLICATION*

MEC 1006-CO3: Prepare multiview orthographic projections of Solids by visualizing them in different positions. *APPLICATION*

MEC 1006-CO4: (4) Prepare pictorial drawings using the principles of isometric projections to visualize objects in three dimensions. *APPLICATION*

31. Course Name: Basic Engineering Science

Course Code: CIV1008

CIV 1008-CO1: Recognize the significance of various disciplines in Civil Engineering
COMPREHENSION



CIV 1008-CO2: Discuss the recent evolutions in Civil Engineering *COMPREHENSION*

CIV 1008-CO3: Explain various energies, energy generating machineries and energy consumption machineries *COMPREHENSION*

CIV 1008-CO4: Distinguish between conventional and modern manufacturing techniques. *COMPREHENSION*

32. **Course Name:** Material Science & Metallurgy

Course Code: MEC2016

MEC 2016-CO1: State the crystal structure, crystal imperfections and diffusion process in solids *KNOWLEDGE*

MEC 2016-CO2: Describe the phases, phase diagrams and phase transformations *COMPREHENSION*

MEC 2016-CO3: Discuss various heat treatment processes and their impact on material properties. *COMPREHENSION*

MEC 2016-CO4: Discuss different properties of the material by performing different test. *COMPREHENSION*

33. **Course Name:** Mechanics of Solids

Course Code: MEC2011

MEC 2011-CO1: Compute the Normal Stress and Strain in Mechanical components *APPLICATION*

MEC 2011-CO2: Compute the Bending Stress and Deflections of Beams *APPLICATION*

MEC 2011-CO3: Compute Torsional Shear Stress and Strain in Shafts *APPLICATION*

MEC 2011-CO4: Explain the concepts of Principle Stress and Strain Transformations *COMPREHENSION*

34. **Course Name:** Basics Thermodynamics

Course Code: MEC4001

MEC 4001-CO1: Summarize basic concept of thermodynamics *COMPREHENSION*

MEC 4001-CO2: Compute the properties of pure substance with the help of Mollier chart and steam tables. *APPLICATION*

MEC 4001-CO3: Apply the first law of thermodynamics to steady flow control volume and control mass system. *APPLICATION*

MEC 4001-CO4: Apply second law of thermodynamics to different thermodynamic cycles (Heat Pump, refrigeration, Heat Engines) *APPLICATION*

35. **Course Name:** Creativity in Design

Course Code: MEC5009



MEC5009-CO1: Apply the concept of design in various engineering applications.
APPLICATION

MEC5009-CO2: Model different functional components. *COMPREHENSION*

MEC5009-CO3: Identify the optimal design parameters. *APPLICATION*

MEC5009-CO4: Understand the human engineering in design. *APPLICATION*

MEC5009-CO5: Develop different concept and models as a project work *APPLICATION*

36. **Course Name:** Reverse Engineering

Course Code: MEC5012

MEC5012-CO1: Summarize the techniques and methodologies involved in reverse engineering *Comprehension*

MEC5012-CO2: Use hardware and software related to reverse engineering *Comprehension*

MEC5012-CO3: Employ reverse engineering principles in Rapid Prototyping *Comprehension*

MEC5012-CO4: Relate reverse engineering methodologies with various industries *Analysis*

MEC5012-CO5: Explain legal aspects and barriers in reverse engineering *Comprehension*

37. **Course Name:** Lean Design and Manufacturing

Course Code: MEC5014

MEC5014-CO1: Explain engineering fundamentals to Lean Manufacturing *Knowledge*

MEC5014-CO2: Analyze the various Lean Principles *Comprehension*

MEC5014-CO3: Apply lean techniques to bring competitive business culture for improving organization performance *Application*

MEC5014-CO4: Analyze how lean techniques can be applied to industries for improving organizational performance *Application*



School Of Engineering
Department of Petroleum Engineering

1. Course Name: Petroleum Geology

Course Code: PET1001

PET1001-CO1: Describe different processes acting below and above the surface of the earth
Comprehension

PET1001-CO2: Explain the role of petroleum system in the oil and gas industry *Application*

PET1001-CO3: Recognize different types of sedimentary basins and sedimentary environments *Application*

PET1001-CO4: Apply basic knowledge of geology while performing laboratory experiments
Application

2. Course Name: Fundamentals of Oil and Gas Well Drilling Technology

Course Code: PET2003

PET2003-CO1: Compute the load capacity and power requirement of various rig components,
Application

PET2003-CO2: Choose appropriate drill string components according to pressure requirements, *Application*

PET2003-CO3: Select appropriate casing string according to pressure requirements,
Comprehension

PET2003-CO4: Classify drilling bits based on the drilling mechanism. *Comprehension*

3. Course Name: Fundamentals of Geophysical Logging Techniques

Course Code: PET2002

PET2002-CO1: Discuss the importance of geophysical logging in the petroleum industry,
Comprehension

PET2002-CO2: Explain various geophysical logging techniques, *Application*

PET2002-CO3: Interpret basic geophysical logging tools, *Application*

PET2002-CO4: Describe special and advanced logging tools, and *Comprehension*

PET2002-CO5: Demonstrate different cross-plotting techniques. *Application*

4. Course Name: Fundamentals of Petroleum Reservoir Engineering

Course Code: PET2004

PET2004-CO1: Explain the reservoir rock and fluid properties of a hydrocarbon reservoir
Comprehension



PET2004-CO2: Compare the flow behavior of reservoir fluid through porous media
Comprehension

PET2004-CO3: Differentiate various drive mechanisms *Comprehension*

PET2004-CO4: Apply the concept of different reserve estimation methods *Application*

PET2004-CO5: Describe different coning scenario *Knowledge*

5. **Course Name:** Fundamentals of Instrumentation and Control Engineering

Course Code: PET2005

PET2005-CO1: Illustrate the dynamic behavior and feedback loops for linear systems
Application

PET2005-CO2: Apply the concept of various response of first and second order systems
Application

PET2005-CO3: Analyze the open and closed loop stability and performance of simple processes *Application*

6. **Course Name:** Reservoir Fluid Mechanics

Course Code: PET2012

PET2012-CO1: Summarize the basic properties of fluids *Application*

PET2012-CO2: Employ the concept of hydrostatics to pressure measuring devices *Application*

PET2012-CO3: Apply the principle of energy conservation to flow measuring devices
Application

PET2012-CO4: Calculate different parameters for compressible fluid flow *Application*

7. **Course Name:** Geophysical Methods for Oil and Gas Exploration

Course Code: PET2014

PET2014-CO1: Explain basic features associated with the origin and maturation of petroleum
Knowledge

PET2014-CO2: Describe the geochemical methods for hydrocarbon detection *Knowledge*

PET2014-CO3: Summarize the Magnetic and gravity survey method as well as interpret the related anomalies *Comprehension*

PET2014-CO4: Demonstrate the theory and working behind different seismic exploration methods *Comprehension*

8. **Course Name:** Occupational Health and Safety (DE-III)

Course Code: PET2030

PET2030-CO1: Recognize importance of reliability and safety at workplace *Knowledge*

PET2030-CO2: Apply the risk assessment techniques *Application*



PET2030-CO3: Demonstrate the safety practices applicable in drill site *Application*

PET2030-CO4: Illustrate the methods to control oil spill and treat waste water *Application*

9. **Course Name:** Directional Drilling Technology (DE-III)

Course Code: PET3002

PET3002-CO1: Explain directional drilling, its applications and deflection tools, *Comprehension*

PET3002-CO2: Sketch the different directional well profiles *Application*

PET3002-CO3: Discuss techniques used in directional drilling *Comprehension*

PET3002-CO4: Describe the recent advances in directional well technologies as well as the associated problems *Comprehension*

10. **Course Name:** Thermodynamics of Reservoir Fluids

Course Code: PET2009

PET2009-CO1: Understand first law and second law of thermodynamics *Comprehension*

PET2009-CO2: Apply the thermodynamics understanding to fluid flow processes such as turbine and compressor *Application*

PET2009-CO3: Classify different types of oil and gas reservoirs based on the fundamentals of reservoir fluid behavior and properties *Application*

PET2009-CO4: Interpret the theoretical knowledge of thermodynamics with lab experiments *Application*

11. **Course Name:** Introduction to Oil and Gas Reservoir Simulation

Course Code: PET2010

PET2010-CO1: Explain reservoir simulation fundamentals- the underlying equations, the numerical techniques used to solve them and History matching *Comprehension*

PET2010-CO2: Design a reservoir simulation model, construct the data set, execute the simulator, and view simulation results visually using software *Application*

PET2010-CO3: Predict and optimize future performance of petroleum reservoirs using reservoir simulation and economic models *Application*

12. **Course Name:** Oil and Gas Well Test Analysis

Course Code: PET2019

PET2019-CO1: Explain diffusivity equation, its derivation and solution, Principle of superposition, *Comprehension*

PET2019-CO2: Apply the knowledge to determine the reservoir Pressure, Permeability and Skin factor using pressure build-up test analysis. *Comprehension*



PET2019-CO3: Apply the knowledge of flow tests in order to calculate the pore volume of the reservoir. *Application*

PET2019-CO4: Explain the different types of gas well tests and their uses. *Comprehension*

13. Course Name: Wellbore Problems and Mitigation

Course Code: PET2024

PET2024-CO1: Describe different scenarios that may result in drill pipe sticking *Knowledge*

PET2024-CO2: Explain causes and mitigation of lost circulation *Knowledge*

PET2024-CO3: Interpret abnormal pore pressure based on shale pressure trend *Comprehension*

PET2024-CO4: Analyze kick tolerance and kill mud density under specified conditions *Comprehension*

14. Course Name: Directional Drilling Technology

Course Code: PET3002

PET3002-CO1: Explain directional drilling, its applications and deflection tools, *Comprehension*

PET3002-CO2: Sketch the different directional well profiles *Application*

PET3002-CO3: Discuss techniques used in directional drilling *Comprehension*

PET3002-CO4: Describe the recent advances in directional well technologies as well as the associated problems *Comprehension*

15. Course Name: Advanced Petroleum Reservoir Engineering

Course Code: PET3006

PET3006-CO1: Interpret different Water influx models. *Application*

PET3006-CO2: Explain immiscible drive mechanism for Improved Oil Recovery through water and gas flooding. *Comprehension*

PET3006-CO3: Compute different natural drive indices in a combination drive in an oil reservoir. *Application*

PET3006-CO4: Discuss the reservoir management concepts. *Comprehension*

16. Course Name: Integrated Field Development and Planning (DE-VII)

Course Code: PET2018

PET2018-CO1: Discuss decision making process of field development projects and related economic criteria *Knowledge*

PET2018-CO2: Describe main reservoirs monitoring techniques allowing to apply IOR/EOR methods and increase recovery *Comprehension*



PET2018-CO3: Dramatize the main concepts of risks and uncertainties and their integration into reserves evaluation *Application*

PET2018-CO4: Apply the main concepts of Reservoir Management, process and economics. *Application*

17. Course Name: Multilateral and Horizontal Well Technology (DE-VII)

Course Code: PET3005

PET3005-CO1: Evaluate the advantages of new drilling technologies like horizontal drilling and Extended Reached Drilling *Knowledge*

PET3005-CO2: Evaluate the application of horizontal wells in oil and gas industry *Knowledge*

PET3005-CO3: Analyze the importance of formation evaluation techniques in horizontal wellbores *Comprehension*

PET3005-CO4: Examine the production performance of horizontal wells *Comprehension*

18. Course Name: Data Science for Petroleum Engineers (Open Elective-III)

Course Code: PET322

PET 322-CO1: Describe a flow process for data science problems. *Comprehension*

PET 322-CO2: Classify data science problems into standard typology. *Comprehension*

PET 322-CO3: Execute R codes for data science solution. *Application*

PET 322-CO4: Application of data analytics in Oil and Gas industry problems *Application*

19. Course Name: Multiphase Flow for Oil and Gas Transport (Open Elective-IV)

Course Code: PET323

PET 323 -CO1: Classify flow regime of fluid and solid interaction *Knowledge*

PET 323 -CO2: Estimate pressure drop of homogenous and Segregated flow *Application*

PET 323 -CO3: Develop multiphase interactions in various industrial applications *Application*

PET 323 -CO4: Describe multiphase flow in Oil and Gas Well *Application*

20. Course Name: Professional Practice-II

Course Code: PIP102

PIP 102-CO1: Identify the engineering problems related to local, regional, national or global needs *Knowledge*

PIP 102-CO2: Apply appropriate techniques or modern tools for solving the intended problem *Application*

PIP 102-CO3: Design the experiments as per the standards and specifications. *Synthesis*

PIP 102-CO4: Interpret the events and results for meaningful conclusions. *Synthesis*



PIP 102-CO5: Appraise project findings and communicate effectively through scholarly publications. *Evaluation*

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School Of Engineering Department of Physics

1. Course Name: Materials Physics

Course Code: PHY1001

PHY1001-CO1: Identify the crystal structure of materials from X-ray diffraction patterns.
Comprehension

PHY1001-CO2: Describe the mechanical, thermal and corrosive properties of materials.
Knowledge

PHY1001-CO3: Analyze the importance of material properties for a wide range of engineering applications. *Comprehension*

PHY1001-CO4: Students can able to Design, build, or assemble a part, product, or system using specific methodologies, equipment and materials. *Application*

2. Course Name: Optoelectronics and Device Physics

Course Code: PHY1002

PHY1002-CO1: Describe the concepts of semiconductors, magnetic materials and superconductors. *Knowledge*

PHY1002-CO2: Apply the concept of materials in the working of optoelectronic and magnetic devices.
Application

PHY1002-CO3: Discuss the quantum concepts used in advanced microscopy and quantum computers *Comprehension*

PHY1002-CO4: Explain the applications of lasers and optical fibers in various technological fields *Application*

PHY1002-CO5: Interpret the results of various experiments to verify the concepts used in optoelectronics and advanced devices. *Application*

3. Course Name: Essentials of Physics

Course Code: PHY1009

PHY1009-CO1: Define the basic terminology used in Physics *Knowledge*

PHY1009-CO2: Describe the laws of motion, forces and energy *Knowledge*

PHY1009-CO3: Determine the influence of external environment on the behavior and response of an object *Comprehension*



School of Commerce and Economics

1. Course Name: Introduction to Financial Technology

Course Code: COM3015

COM3015-CO1: Define the meaning of Financial Technology *Knowledge*

COM3015-CO2: Describe how crypto currency works. *Knowledge*

COM3015-CO3: Describe the different types of Digital finance. *Knowledge*

COM3015-CO4: Discuss various Fin tech regulations. *Comprehension*

COM3015-CO5: Discuss the various Fin tech trends *Comprehension*

2. Course Name: Airport Operations Advanced

Course Code: BAV3003

BAV3003-CO1: Identify the operational areas, processes, constraints in airside and landside *Knowledge*

BAV3003-CO2: Discuss the process of cargo operations with documentation *Comprehension*

BAV3003-CO3: Review the security and screening process in the entire airport at different levels of operations *Comprehension*

BAV3003-CO4: Recall the Airline flight operations *Knowledge*

3. Course Name: Regulatory Framework of Aviation

Course Code: BAV3004

BAV3004-CO1: Describe the different regulatory organizations and rulemaking *Knowledge*

BAV3004-CO2: Explain the process of Accident Investigation at AAIB *Comprehension*

BAV3004-CO3: Interpret the different international conventions and their impact on today's Aviation *Comprehension*

BAV3004-CO4: State the Civil Aviation Requirements *Knowledge*

BAV3004-CO5: Recognize the National Law in Aviation *Knowledge*

4. Course Name: Corporate Accounting

Course Code: COM2008

COM2008-CO1: Discuss the mechanism involved in issuing of shares *Comprehension*

COM2008-CO2: Explain the process of computation of Valuation of Shares *Comprehension*

COM2008-CO3: Explain the process of computation of Valuation of Goodwill *Comprehension*

COM2008-CO4: Discuss the procedure of insurance company accounts *Comprehension*

COM2008-CO5: Summarize the process / mechanism of Buy back of shares *Knowledge*



5. Course Name: Organizational Behavior

Course Code: COM2013

COM2013-CO1: Predict the influence of individual behavior, group behavior and structure in improving the organizational effectiveness. *Comprehension*

COM2013-CO2: Demonstrate the individual behavior concepts for making people related decisions at workplace. *Application*

COM2013-CO3: Construct methods to enhance employee productivity in different workplace situations. *Comprehension*

COM2013-CO4: Explain the effectiveness of teams, groups and leaders. *Comprehension*

COM2013-CO5: Explain steps to manage organizational change and development in various context and settings *Comprehension*

6. Course Name: Banking & Insurance

Course Code: SOC2002

SOC2002-CO1: Describe the Commercial Banking and Insurance Systems in India *Comprehension*

SOC2002-CO2: Identify the Emerging Trends in the Banking Sector *Knowledge*

SOC2002-CO3: Indicate different forms of risk in Banking Sector *Knowledge*

SOC2002-CO4: Summarize the process of Insurance *Comprehension*

SOC2002-CO5: Describe NPA and its management *Comprehension*

7. Course Name: Business Statistics

Course Code: SOC2003

SOC2003-CO1: Describe the applications of statistics in different fields, types of variables, data and sampling methods *Knowledge*

SOC2003-CO2: . Distinguish various types of classification and types of tables *Knowledge*

SOC2003-CO3: Summarize the data using diagrams and graphs *Comprehension*

SOC2003-CO4: Summarize the data using measures of location and scale *Comprehension*

SOC2003-CO5: Discuss the Concept of correlation and Regression *Application*

8. Course Name: Financial Analytics and Control

Course Code: MAH2002

MAH2002-CO1: Describe the concepts of Financial Analytics and Control *Knowledge*

MAH2002-CO2: Define the practices of Financial Analytics Control *Knowledge*

MAH2002-CO3: Discuss the techniques of Financial Analytics Control *Comprehension*

MAH2002-CO4: Illustrate the techniques of Financial Analytics control *Comprehension*



MAH2002-CO5: Apply the practices of financial analytics control *Application*

9. Course Name: Advanced Mathematics for Economics

Course Code: BSE1003

BSE1003-CO1: Recognize mathematical tools and techniques used in economic analysis
Knowledge

BSE1003-CO2: Apply the mathematical models to study the economic anomalies *Application*

BSE1003-CO3: Review the optimization problems and explain the properties of solutions
Comprehension

BSE1003-CO4: Development of critical thinking and problem-solving skills in a mathematical context *Comprehension*

10. Course Name: Macroeconomics

Course Code: BSE1016

BSE1016-CO1: Understand national income, the usefulness and different methods of its estimation. *Knowledge*

BSE1016-CO2: Explain the basic concept of employment theories. *Application*

BSE1016-CO3: Define effective demand, level of income, consumption and investment in an economy *Comprehension*

BSE1016-CO4: Analyse the basic concept of business cycles and government role in regulating it. *Comprehension*

11. Course Name: Operations Research

Course Code: BSE2006

BSE2006-CO1: Describe the various types of models used in operations research *Knowledge*

BSE2006-CO2: Identify the areas of application and formulate LP models using graphical procedure to solve them *Comprehension*

BSE2006-CO3: Understand the significance of using simplex & duality concepts to solve them.
Comprehension

BSE2006-CO4: Interpret the special features & optimal solutions of transportation
Comprehension

12. Course Name: Applied Statistics

Course Code: BSE2011

BSE2011-CO1: Define different types of data, various sources of collection, merit and demerits of different data collection methods. *Knowledge*



BSE2011-CO2: Classify different statistical tools for drawing inferences in the areas of Statistics *Comprehension*

BSE2011-CO3: Apply the basic concept of mortality and different concepts related with it *Application*

BSE2011-CO4: Solve testing of Hypothesis through one tail and two tail tests *Application*

BSE2011-CO5: Solve large sample test concepts in reality and analyse its practical implications. *Application*

13. Course Name: Principles & Practices of Banking

Course Code: COM3004

COM3004-CO1: Identify the scope of Indian Banking System *Comprehension*

COM3004-CO2: Review the importance of banker-customer relationship *Comprehension*

COM3004-CO3: Summarize the relevance of various bank products *Comprehension*

COM3004-CO4: Identify banking innovations *Comprehension*

COM3004-CO5: Summarize the latest technology in Banking *Comprehension*

14. Course Name: Corporate Governance and Business Ethics

Course Code: SOC1001

SOC1001-CO1: Discuss the fundamental principles of Corporate Governance *Knowledge*

SOC1001-CO2: Outline the various codes and systems of Corporate Governance *Comprehension*

SOC1001-CO3: Identify the benefits of managing ethics in workplace *Comprehension*

SOC1001-CO4: Explain various theories of business ethics *Comprehension*

15. Course Name: Concept of Block chain

Course Code: COM3026

COM3026-CO1: Discuss and describe the history, types and applications of Blockchain *Knowledge*

COM3026-CO2: Gaining understanding of blockchain-related cryptography and distributed computing concepts. *Comprehension*

COM3026-CO3: Utilize Web3j to create and distribute projects. *Comprehension*

COM3026-CO4: Implement an ICO on Ethereum *Application*

COM3026-CO5: Design blockchain based application with Swarm and IPFS *Application*

16. Course Name: Laws for Financial safeguards

Course Code: COM3027



COM3027-CO1: Recognize the roles, responsibilities and challenges of a financial officer
Knowledge

COM3027-CO2: Summarize the process of investigation and proceedings in financial wrongs
Comprehension

COM3027-CO3: Infer the factors leading to threat to financial structure in India
Analysis

COM3027-CO4: Relate the importance of training and development in Financial Security sector.
Knowledge

COM3027-CO5: Appraise various methods for financial safeguards.
Analysis

17. Course Name: Airline and Cabin Crew Management

Course Code: AVM107

AVM107-CO1: Recognize the importance of Supply and Demand for Air Transport
Comprehension

AVM107-CO2: Interpret various types of Airline Industries.
Comprehension

AVM107-CO3: Illustrate Flight Schedule and Crew management.
Application

AVM107-CO4: Analyze Pricing and Revenue Management.
Knowledge

AVM107-CO5: Demonstrate excellent Route Planning.
Application

18. Course Name: Aviation Maintenance Management

Course Code: AVM108

AVM108-CO1: Discuss the Definitions, Goals, and Objectives of Maintenance
Comprehension

AVM108-CO2: List out the various documentation process
Knowledge

AVM108-CO3: Illustrate the various process involved in Production Planning and Control
Application

AVM108-CO4: Demonstrate the Line Maintenance Operation
Application

AVM108-CO5: Discuss the process of Quality Assurance & Quality Control
Comprehension

AVM108-CO6: Identify the element of load and trim
Knowledge

19. Course Name: Business Intelligence and Data Visualization

Course Code: BCH3002

BCH3002-CO1: Describe the concept of Data Intelligence
Knowledge

BCH3002-CO2: Discuss the challenges of Data Visualization
Comprehension

BCH3002-CO3: Explain the techniques of Business Intelligence
Comprehension

BCH3002-CO4: Identify emerging practices in DV
Comprehension

BCH3002-CO5: Identify recent trends in Business Intelligence
Comprehension



20. Course Name: Principles and Practices of Auditing

Course Code: COM2017

COM2017-CO1: Describe the practices of Auditing *Knowledge*

COM2017-CO2: Identify Internal Control techniques *Knowledge*

COM2017-CO3: Illustrate the practice of vouching *Application*

COM2017-CO4: Compute Assets and Liabilities *Analysis*

COM2017-CO5: Interpret audit of limited companies *Analysis*

21. Course Name: Strategic Financial Management

Course Code: MAH2004

MAH2004-CO1: Analyze common size financial statement *Analysis*

MAH2004-CO2: Analysis of financial statement through financial ratio calculations and profitability analyses *Analysis*

MAH2004-CO3: Identify the relationship between risk and return and utilize the knowledge of long-term financial management and to examine financial markets and regulations *Knowledge*

MAH2004-CO4: Analyse working capital management and short-term credit management *Analysis*

MAH2004-CO5: Explain mergers and acquisitions, bankruptcy, and corporate restructuring. *Comprehension*

22. Course Name: Income Tax 2

Course Code: COM3025

COM3025-CO1: Discuss the various business and profession taxation. *Comprehension*

COM3025-CO2: Discuss the different Components of Capital Gain/loss. *Comprehension*

COM3025-CO3: Discuss the different Components of Income from other sources *Comprehension*

COM3025-CO4: Explain the various deductions, setoff under income tax Act *Comprehension*

COM3025-CO5: Computation of tax liability of Individual. *Application*

23. Course Name: Data Mining & Forecasting

Course Code: BSE2014

BSE2014-CO1: Describe the various types of databases and its applications in business. *Knowledge*

BSE2014-CO2: Classify Data Processing, Data Cleaning, Data Integration and Data Decentralization methods. *Comprehension*

BSE2014-CO3: Identify different data mining and forecasting techniques. *Comprehension*



BSE2014-CO4: Discuss the advanced topics in data mining and forecasting trends.
Comprehension

BSE2014-CO5: Explain the significance of forecasting and its applications *Comprehension*

24. **Course Name:** International Economics

Course Code: BSE1014

BSE1014-CO1: Define the significance of international trade relations over time. *Knowledge*

BSE1014-CO2: Interpret the different possible terms of trade of international trade and resource movements. *Application*

BSE1014-CO3: Discuss the impact of trade policies offered by different international trade organizations. *Comprehension*

BSE1014-CO4: Explain the BOP and trade integrations. *Comprehension*

25. **Course Name:** Advanced Econometrics

Course Code: BSE2007

BSE2007-CO1: Discuss statistics tests to check the robustness of econometric models
Comprehension

BSE2007-CO2: Employ the Cointegration and Error Correction Models and make statistical inferences *Comprehension*

BSE2007-CO3: Explain the Vector Autoregressive (VAR) Models *Comprehension*

BSE2007-CO4: Apply the tools of ARCH - GARCH Models in business decision *Application*

26. **Course Name:** Economics of Development

Course Code: BSE1012

BSE1012-CO1: Develop the basic concepts and nature of development economics. *Knowledge*

BSE1012-CO2: Construct new developments in economic planning. *Application*

BSE1012-CO3: Extend the fundamentals of components of development economics
Comprehension

BSE1012-CO4: Classify about economic growth and economic development models
Comprehension

27. **Course Name:** Evolution of Economic Thought

Course Code: BSE2023

BSE2023-CO1: Outline the classical economic thought *Knowledge*

BSE2023-CO2: Analyse the Neo Classical school of economic thought *Application*



BSE2023-CO3: Evaluate economics of welfare and Keynesian and Post Keynesian development approaches *Comprehension*

28. Course Name: Labor Economics

Course Code: BSE2028

BSE2028-CO1: Describe the relationship between the labour market and the other sectors of the economy. *Knowledge*

BSE2028-CO2: Evaluate and interpret the labour market policies of governments, unions and other factors in the labour market. *Comprehension*

BSE2028-CO3: Identify the actions of economic factors within the labour market, and identify various outcomes of the labour market, that are driven by economic incentives. *Comprehension*

BSE2028-CO4: Analyze labour market issues through the application of economic data and theories. *Comprehension*

29. Course Name: Financial Information System

Course Code: COM3016

COM3016-CO1: Outline the difference between Data & Information. *Knowledge*

COM3016-CO2: Describe the functions of various information system *Knowledge*

COM3016-CO3: Discuss the applicability of financial information system. *Comprehension*

COM3016-CO4: Explain the different methods available to manage Information systems. *Comprehension*

COM3016-CO5: Explain the Audit standards and security system for IT *Comprehension*

30. Course Name: Social and Web Analytics

Course Code: MGI267

MGI267-CO1: Describe Social media analytics and web analytics. *Knowledge*

MGI267-CO2: Discuss the fundamentals of social media analytics *Comprehension*

MGI267-CO3: Appraise the importance of web analytics and their potential impact. *Analysis*

MGI267-CO4: Apply Academic knowledge, Intellectual skills, subject practical skills and Transferable skills. *Application*

MGI267-CO5: Relate the application of social media analytics and web analytics in real time. *Application*

31. Course Name: Block chain Analytics

Course Code: MGI268

MGI268-CO1: Recognize the importance of Block Chain. *Knowledge*

MGI268-CO2: Explain the provisions of techniques and tools *Comprehension*



MGI268-CO3: Discuss the AI/ML solutions for various business problems *Comprehension*

MGI268-CO4: Identify the provisions that are a part of Data Analysis *Comprehension*

MGI268-CO5: Identify the ethics of working *Comprehension*

32. **Course Name:** Web Analytics

Course Code: MGI265

MGI265-CO1: Recognize what is web analytics and usage in the business *Comprehension*

MGI265-CO2: Understand the Web metrics process and various activities involved. *Knowledge*

MGI265-CO3: Awareness on different web analytics tools and their performance in helping business world *Analysis*

MGI265-CO4: Practical knowledge on Google Analytics *Analysis*

MGI265-CO5: Understanding the current and future trends in web analytics *Comprehension*

33. **Course Name:** Content Strategy

Course Code: MGI266

MGI266-CO1: Outline the concept of content strategy. *Comprehension*

MGI266-CO2: Recognising values of keywords and hashtags. *Comprehension*

MGI266-CO3: Preparing different types of contents and choosing the platforms. *Creation*

MGI266-CO4: Identifying the target audiences and determining factor affecting their preferences. *Application*

MGI266-CO5: Discussing content management systems and explaining content promotion techniques. *Analysis*

34. **Course Name:** Accounting in Logistics and Supply Management

Course Code: MGI263

MGI263-CO1: Describe the impact of accounting and costing in Logistics and Supply Chain Management. *Knowledge*

MGI263-CO2: Describe the application of Costing in Logistics *Knowledge*

MGI263-CO3: Explain the process of costing in Supply Chain Management *Comprehension*

MGI263-CO4: Summarize the goods handling techniques in Logistics. *Comprehension*

MGI263-CO5: Discuss the application of Accounting for logistics and supply chain Management in Transportation Industry. *Comprehension*

35. **Course Name:** Digital Marketing

Course Code: MGI264



MGI264-CO1: Outline the relevance of digital marketing in contemporary world. *Knowledge*

MGI264-CO2: Outline the relevance of digital marketing in contemporary world. *Comprehension*

MGI264-CO3: Create successful digital marketing campaign using social media marketing. *Comprehension*

MGI264-CO4: Apply social media platforms to achieve marketing objectives *Application*

MGI264-CO5: Analyze Digital Marketing campaign using Google analytics *Application*

36. Course Name: International Auditing and Assurance

Course Code: MGI261

MGI261-CO1: Explain the concept of Fraud detection *Knowledge*

MGI261-CO2: Demonstrate Planning & risk assessment Procedures *Knowledge*

MGI261-CO3: Describe and evaluate internal controls *Comprehension*

MGI261-CO4: Identify and describe the audit evidence obtained by the auditor *Analysis*

MGI261-CO5: Prepare final Review & Reporting *Application*

37. Course Name: Forensic Accounting

Course Code: MGI262

MGI262-CO1: Define the meaning of Forensic Accounting. *Knowledge*

MGI262-CO2: Describe different types of Financial Crimes. *Knowledge*

MGI262-CO3: Describe the different methods of Fraud Risk Management. *Knowledge*

MGI262-CO4: Discuss a Forensic Investigation program. *Comprehension*

MGI262-CO5: Prepare the Forensic investigation Report. *Application*

38. Course Name: Application of Business Analytics-2

Course Code: BAS106

BAS106-CO1: Illustrate data management to execute descriptive analytics *Application*

BAS106-CO2: Compute various data visualization methods used in business practices. *Application*

BAS106-CO3: Predict business trends based on predictive analytics used in business decision making. *Application*

BAS106-CO4: Illustrate the business stakeholders to optimize and achieve business objectives using data *Application*

39. Course Name: Data Visualization

Course Code: BAS108



BAS108-CO1: Identify the real time open-source data able to gain data literacy knowledge
Knowledge

BAS108-CO2: Discuss the importance of data visualizations effectively impacts on data driven decision
Comprehension

BAS108-CO3: Prepare the various reports using data visualization to bring novel solution
Application

BAS108-CO4: Illustrate charts to churn the data that helps the marketers to bring strategic outcome
Application

40. **Course Name:** Predictive Analytics

Course Code: BAS109

BAS109-CO1: Define the nature and concepts of analytics and predictive analytics with its applications
Knowledge

BAS109-CO2: Discuss the relevance of predictive analytics and its tools used to analyze real time problems
Comprehension

BAS109-CO3: Compute the data analysis in business scenarios using regressions using the software tools such as Excel/ R/ SPSS/ to achieve competitive advantage
Application

BAS109-CO4: Demonstrate the data driven decisions using business forecasting analysis through Excel/ R/ SPSS/
Application

41. **Course Name:** Mergers and Acquisition

Course Code: BFI107

BFI107-CO1: Identify the Type of Merger
Comprehension

BFI107-CO2: Explain the Merger process
Comprehension

BFI107-CO3: Compute the value of a Merger & Acquisition transaction
Application

BFI107-CO4: Discuss the various takeover approaches of a business organization
Comprehension

42. **Course Name:** Financial Modelling

Course Code: BFI108

BFI108-CO1: Explain the advanced functions of excel used in financial modelling
Comprehension

BFI108-CO2: Analyse the excel models of financial analysis
Analysis

BFI108-CO3: Analyze and apply the capital budgeting modelling techniques
Analysis

BFI108-CO4: Analyze and interpret the investment in equity through financial models
Application

BFI108-CO5: Apply the advanced excel techniques to test the security market line.
Application



43. Course Name: Project Appraisal & Financing

Course Code: BFI109

BFI109-CO1: Describe the issues of strategic planning and capital budgeting. *Knowledge*

BFI109-CO2: Explain the techniques of non- financial appraisal *Comprehension*

BFI109-CO3: Analyze the feasibility of different projects. *Application*

BFI109-CO4: Explain different sources of project financing. *Comprehension*

44. Course Name: Knowledge Management

Course Code: BHR106

BHR106-CO1: Recognize the importance of types of knowledge and features of knowledge transfer *Knowledge*

BHR106-CO2: Apply knowledge management mechanisms and map the knowledge management matrix. *Application*

BHR106-CO3: Analyze social knowledge in changing scenarios and overcoming knowledge sharing barriers at various levels. *Analysis*

BHR106-CO4: Discuss the knowledge management concepts through knowledge audit and knowledge analysis. *Comprehension*

45. Course Name: Performance Management

Course Code: BHR109

BHR109-CO1: Describe the importance of managing employee performance at work and its impact on organization. *Knowledge*

BHR109-CO2: Identify performance management techniques, rewards and sanctions to improve performance. *Comprehension*

BHR109-CO3: Discuss the relevance of performance monitoring as a part of performance management *Comprehension*

BHR109-CO4: Explain the significance of change to imbibe an ethical performance culture in an organization. *Comprehension*

46. Course Name: HR Analytics

Course Code: BHR110

BHR110-CO1: Discuss the foundations of Analytics and its relatedness with HR Processes. *Comprehension*

BHR110-CO2: Construct metrics for various HR functions *Application*

BHR110-CO3: Construct HR analytics and visualization using MS excel *Application*

BHR110-CO4: Interpret and predict the data to draw inferences for decision making in Human resources *Application*



BHR110-CO5: Prepare prescriptive and advanced HR modelling *Application*

47. Course Name: Brand Management

Course Code: BMK108

BMK108-CO1: Identify the key elements of brand management *Knowledge*

BMK108-CO2: Discuss the framework on customer-based brand equity and brand performance *Comprehension*

BMK108-CO3: Describe the concepts of brand focus and solves the brand-related problems *Comprehension*

BMK108-CO4: Explain the concepts of brand labeling and communication *Comprehension*

48. Course Name: Marketing Analytics

Course Code: BMK110

BMK110-CO1: Describe the basics of marketing analytics for decision making *Knowledge*

BMK110-CO2: Explain product positioning and its importance *Knowledge*

BMK110-CO3: Discuss price elasticity modeling *Comprehension*

BMK110-CO4: Illustrate market mix modeling and the variables involved *Application*

BMK110-CO5: Apply analytics in the customer journey process *Comprehension*

49. Course Name: Sales & Distribution Management

Course Code: BMK107

BMK107-CO1: Describe the concepts of Sales management *Knowledge*

BMK107-CO2: Discuss types of selling techniques *Comprehension*

BMK107-CO3: Explain the practices of sales force motivation and compensation *Comprehension*

BMK107-CO4: Discuss the types of marketing channels *Comprehension*

50. Course Name: Lean Supply Chain Management

Course Code: BSC106

BSC106-CO1: Outline the introduction of lean supply chain management *Knowledge*

BSC106-CO2: Identify the lean supply chain strategy tactics and operational plans. *Comprehension*

BSC106-CO3: Explain e-commerce interaction with lean supply chain management *Comprehension*

BSC106-CO4: Employ the models for implementing a sustainable lean supply chain practices in an organization. *Application*



51. Course Name: Emerging technologies in logistics and supply chain Management

Course Code: BSC107

BSC107-CO1: Outline the introduction to logistics 4.0. *Knowledge*

BSC107-CO2: Discuss the process of E-Procurement and E-Logistics. *Comprehension*

BSC107-CO3: Outline the role of digital supply chain. *Comprehension*

BSC107-CO4: Identify the process of integrating block chain technology with supply chain operations. *Application*

52. Course Name: Global Supply Chain Management

Course Code: BSC108

BSC108-CO1: Outline the fundamentals concepts global supply chain and its application in global businesses *Knowledge*

BSC108-CO2: Infer the various factors necessary to plan, forecast, schedule, evaluate, and effectively manage an procurement program streamlined from a global perspective *Comprehension*

BSC108-CO3: Describe the functional role in operating process necessary for effective integration of purchase, transportation and distribution. *Knowledge*

BSC108-CO5: Explain the need for risk management, resilience and green initiatives in contemporary management of global supply chain *Comprehension*

53. Course Name: International Banking and Finance

Course Code: BFS108

BFS108-CO1: Describe the evolution of International Banking *Knowledge*

BFS108-CO2: Discuss the international banking operations. *Comprehension*

BFS108-CO3: Explain the international finance activities and debt products. *Comprehension*

BFS108-CO4: Discuss about the FEMA ACT and the key regulations of RBI. *Comprehension*

BFS108-CO5: Classify the risk involved in International Banking *Comprehension*

54. Course Name: Income Tax 2

Course Code: CAT109

CAT109-CO1: Discuss the various business and profession taxation. *Comprehension*

CAT109-CO2: Discuss the different Components of Capital Gain/loss. *Comprehension*

CAT109-CO3: Discuss the different Components of Income from other sources *Comprehension*

CAT109-CO4: Explain the various deductions, setoff under income tax Act *Comprehension*

CAT109-CO5: Computation of tax liability of Individual. *Application*



School of Management-UG

1. Course Name: Human Resources Management

Course Code: BBA2003

BBA2003-CO1: Outline the evolution of HRM and roles and responsibilities of a HR Manager.
(Knowledge) *Knowledge*

BBA2003-CO2: Describe the process of Human resources planning and Job design.
(Comprehension) *Comprehension*

BBA2003-CO3: Outline the factors affecting Recruitment and Selection Process.
(Comprehension) *Comprehension*

BBA2003-CO4: Recognize the importance of training and its process. (Comprehension)
Comprehension

BBA2003-CO5: Identify various methods of Performance Appraisal. (Comprehension)
Comprehension

2. Course Name: Marketing Management

Course Code: BBA2005

BBA2005-CO1: Describe the basic concept of Marketing and its application in business.
Knowledge

BBA2005-CO2: Infer the various internal and external factors which affects Marketing of a product in an organization *Comprehension*

BBA2005-CO3: Explain marketing mix to meet growing needs of the customer *Comprehension*

BBA2005-CO4: Identify the basis of segmentation, targeting and positioning for products and services *Comprehension*

BBA2005-CO5: Summarize the factors influencing consumer behavior and its impact on consumer decision making process *Comprehension*

3. Course Name: Essentials of Business Analytics

Course Code: BBB2001

BBB2001-CO1: Describe the fundamental concepts of business analytics being used in business practices. *Knowledge*

BBB2001-CO2: Interpret different types of data management and handling techniques.
Comprehension

BBB2001-CO3: Compute different types of descriptive analytics methods used in business practices *Application*

BBB2001-CO4: Predict business trends based on predictive analytics used in business decision making. *Application*



4. Course Name: Introduction to Digital Marketing

Course Code: BBA3059

BBA3059-CO1: Describe the importance of Digital Marketing *Knowledge*

BBA3059-CO2: Identify the behavior of online consumer and design online marketing initiatives. *Comprehension*

BBA3059-CO3: Create, launch and manage successful digital marketing campaign using search engine. *Comprehension*

BBA3059-CO4: Apply Social Media platforms like Facebook Marketing, YouTube etc to achieve marketing objectives *Application*

BBA3059-CO5: Demonstrate the performance of Digital Marketing campaign using Google analytics. *Application*

5. Course Name: Introduction to Supply Chain Management

Course Code: BBA2014

BBA2014-CO1: Outline the introduction and drivers of supply chain management *Knowledge*

BBA2014-CO2: Identify the material management flow and network operations planning process in supply chain management. *Comprehension*

BBA2014-CO3: Explain demand forecasting and framework for IT adaptation performed in supply Chain management. *Comprehension*

BBA2014-CO4: Discuss supply chain co-ordination and architecture. *Comprehension*

BBA2014-CO5: Explain the process of managing cross functional drivers in supply chain and certain methodologies for handling supply chain disruptions. *Comprehension*

6. Course Name: Essential Statistics for Business Analytics

Course Code: BBB3003

BBB3003-CO2: Describe the concepts of Business Analytics *Knowledge*

BBB3003-CO3: Discuss the process for implementation of Business Analytics process *Comprehension*

BBB3003-CO4: Illustrate the use of BA techniques *Application*

BBB3003-CO5: Relate the applicability of BA concepts with statistical tools *Comprehension*

7. Course Name: Service Management

Course Code: BBA2009

BBA2009-CO1: Describe the factors responsible for growth of service sector in India. *Comprehension*

BBA2009-CO2: Identify gaps in customer expectations of services *Comprehension*



BBA2009-CO3: Examine about 7Ps in Service Marketing *Analysis*

BBA2009-CO4: Demonstrate Gap analysis of an organization's service quality performance against the service quality needs of its customers *Application*

BBA2009-CO5: Appraise the service marketing strategies applied by various service industries in India *Evaluation*

8. Course Name: Entrepreneurship Development

Course Code: BBA2004

BBA2004-CO1: State the theories of entrepreneurship *Knowledge*

BBA2004-CO2: Identify the qualitative aspects of entrepreneur *Comprehension*

BBA2004-CO3: Recognize the role of entrepreneurs in economic development. *Comprehension*

BBA2004-CO4: Explain the process of formation of a new venture. *Comprehension*

BBA2004-CO5: Analyze various problems and measures to overcome the problems of MSME *Analysis*

9. Course Name: Data Visualization

Course Code: BBB3007

BBB3007-CO1: Identify the real time open-source data able to gain data literacy knowledge *Knowledge*

BBB3007-CO2: Discuss the importance of data visualizations effectively impacts on data driven decision *Comprehension*

BBB3007-CO3: Prepare the various reports using data visualization to bring novel solution *Application*

BBB3007-CO4: Illustrate charts to churn the data that helps the marketers to bring strategic outcome *Application*

BBB3007-CO5: Compute the data from descriptive analytics to address the queries of various domains *Application*

10. Course Name: HR Analytics

Course Code: BBA3020

BBA3020-CO1: Discuss the foundations of analytics and its relatedness with HR process *Knowledge*

BBA3020-CO2: Construct metrics for HR functions *Comprehension*

BBA3020-CO3: Demonstrate HR analytics and visualization using MS excel *Comprehension*

BBA3020-CO4: Interpret the data to draw inferences for decision making in Human resources *Application*

BBA3020-CO5: Prepare prescriptive and advanced HR modelling *Application*



11. Course Name: Digital Media Laws

Course Code: BBA3059

BBA3059-CO1: Critically evaluate ongoing developments of law relating to Digital Media
Comprehension

BBA3059-CO2: Display an understanding of how these developments relate to one another
Analysis

BBA3059-CO3: Examine areas of socio-legal discourses surrounding rules and theories
Application

BBA3059-CO4: Evaluate those rules and theories in terms of internal coherence and pragmatic
outcomes *Application*

BBA3059-CO5: Draw on the analysis and evaluation contained in primary and secondary
sources of Digital Media Laws. *Application*

12. Course Name: Digital Marketing Strategy

Course Code: BBA3060

BBA3060-CO1: Identify the strategies used in digital marketing to achieve multiple goals in
the industry *Knowledge*

BBA3060-CO2: Discuss the importance of digital marketing strategies to attains hybrid
business *Comprehension*

BBA3060-CO3: Explain the concepts of composite digital marketing strategies and their
applications *Comprehension*

BBA3060-CO4: Discuss the mechanisms of social network analysis (SNA) in digital space
Comprehension

BBA3060-CO5: Applying the online social networks operation. *Application*

13. Course Name: Supply Chain Modelling and Design

Course Code: BBA3047

BBA3047-CO1: Explain the process of Supply chain modeling *knowledge*

BBA3047-CO2: Demonstrate the application of supply chain software for automating the
supply chain

process in an organization *Application*

BBA3047-CO3: Sketch the various models involved in inventory management and risk
pooling that

automate the supply chain. *Application*

BBA3047-CO4: Illustrate the importance Supply Chain network frameworks and various
optimization

techniques involved *Application*

BBA3047-CO5: Apply the process of Supply Chain production planning for an organization
Application



14. Course Name: Internet and Related Technologies

Course Code: BBA3056

BBA3056-CO1: Describe the basics of IoT *Knowledge*

BBA3056-CO2: Discuss the state of the Architecture of an IoT *Comprehension*

BBA3056-CO3: Identify the design methodology and hardware platforms involved in IoT *Comprehension*

BBA3056-CO4: Classify the data and analyze the data *Comprehension*

BBA3056-CO5: Illustrate the uses of IOT Applications in Industrial & real-world *Application*

15. Course Name: Service Management

Course Code: BBA2009

BBA2009-CO1: Describe the factors responsible for growth of service sector in India. *Comprehension*

BBA2009-CO2: Identify gaps in customer expectations of services *Comprehension*

BBA2009-CO3: Examine about 7Ps in Service Marketing *Analysis*

BBA2009-CO4: Demonstrate Gap analysis of an organization's service quality performance against the service quality needs of its customers *Application*

BBA2009-CO5: Appraise the service marketing strategies applied by various service industries in India *Evaluation*

16. Course Name: Cost & Management Accounting

Course Code: BBA2006

BBA2006-CO1: Explain the elements of Cost and preparation of cost sheet *Comprehension*

BBA2006-CO2: Compute methods of cost control via material, labour and overhead costs *Application*

BBA2006-CO3: Apply various techniques of analysing the financial statements *Application*

BBA2006-CO4: Prepare different types of budgets *Application*

BBA2006-CO5: Interpret the Cash flows from operating, investing and financing activities of business concerns. *Application*

17. Course Name: Marketing Management

Course Code: BBA2005

BBA2005-CO1: Describe the basic concept of Marketing and its application in business. *Knowledge*

BBA2005-CO2: Infer the various internal and external factors which affects Marketing of a product in an organization *Comprehension*



BBA2005-CO3: Explain marketing mix to meet growing needs of the customer *Comprehension*

BBA2005-CO4: Identify the basis of segmentation, targeting and positioning for products and services *Comprehension*

BBA2005-CO5: Summarize the factors influencing consumer behavior and its impact on consumer decision making process *Comprehension*

18. **Course Name:** Dissertation

Course Code: MGT702

MGT702-CO1: Describe the practices of identifying project title *Knowledge*

MGT702-CO2: Explain the method of Literature review *Comprehension*

MGT702-CO3: Illustrate the responses through charts *Application*

MGT702-CO4: Analyze the collected data *Application*

MGT702-CO5: Apply the practices of a domain to solve project related problems *Application*



School of Management-PG

1. Course Name: Derivative Contracts

Course Code: MBA4008

MBA4008-CO1: Explain the role, nature and importance of Derivative Contracts
Comprehension

MBA4008-CO2: Use Future contracts for Speculation and Hedging *Application*

MBA4008-CO3: Employ Option strategies based on traders' expectations *Application*

2. Course Name: International Finance

Course Code: MBA4003

MBA4003-CO1: Describe various International Financial Instruments *Knowledge*

MBA4003-CO2: Estimate Foreign Exchange Rates *Comprehension*

MBA4003-CO3: Apply Interest Rate and Currency Swaps to minimize Foreign Exchange Risk
Analysis

3. Course Name: Insurance and Risk Management

Course Code: MBA4005

MBA4005-CO1: Identify and discuss the main elements of risk and the various strategies that are adopted to deal with risk *Comprehension*

MBA4005-CO2: Apply the fundamental legal principles of insurance contract and the major types of insurance *Application*

MBA4005-CO3: Demonstrate the critical skills to address relevant issues relating to Insurance Company Operations *Application*

4. Course Name: Mergers, Acquisitions and Corporate Restructuring

Course Code: MBA4004

MBA4004-CO1: Explain the corporate growth strategy through mergers and acquisitions
Comprehension

MBA4004-CO2: Demonstrate innovative financial decisions in mergers, acquisitions and corporate restructuring *Application*

MBA4004-CO3: Compute business valuation using various approaches *Application*

5. Course Name: Commercial Banking

Course Code: MBA4006



MBA4006-CO1: Define the various types of commercial banks and their functions
Comprehension

MBA4006-CO2: Understand in-depth knowledge about the services rendered by the commercial banks
Comprehension

MBA4006-CO3: Identify various mechanisms used for credit control by commercial banks
Comprehension

6. Course Name: Fintech

Course Code: MBA4007

MBA4007-CO1: Have a broader overview of Fintech and the key technologies and interface
Knowledge

MBA4007-CO2: Understand the basics of Blockchain and Cryptocurrency
Comprehension

MBA4007-CO3: Analyse the potential areas of disruption in digital payments
Analysis

7. Course Name: Green Finance

Course Code: MBA4009

MBA4009-CO1: Explains fundamentals of green finance in India and in the world.
Knowledge

MBA4009-CO2: Explains the core concepts of Green ICT for Sustainability and Green Finance and Carbon Market
Comprehension

MBA4009-CO3: Describes Green Manufacturing, Logistics and SCM and Regional Development.
Application

8. Course Name: Tax Management

Course Code: MBA4067

MBA4067-CO1: Compute Personal taxable income and tax payable thereon
Application

MBA4067-CO2: Explain types of corporate taxes and tax rates
Comprehension

MBA4067-CO3: Explain basic provisions of GST and Customs duty
Comprehension

9. Course Name: Behavioural Finance

Course Code: MBA4074

MBA4074-CO1: Describe the concepts of behavioural Finance
Knowledge

MBA4074-CO2: Interpret Modern portfolio theories
Application

MBA4074-CO3: Discuss the behavioural aspects of investing
Comprehension

10. Course Name: Sales and Retail Management

Course Code: MBA3012



MBA3012-CO1: Explain the nature and importance of sales management, types and skills of sales managers. *Comprehension*

MBA3012-CO2: Demonstrate the personal selling process. Discuss sales forecasting methods, allocation of sales budget, management of sales territories and sales quotas. *Application*

MBA3012-CO3: Express types of retailers, retail locations, retail growth strategies, merchandise management process, store layout, design visual merchandising. *Comprehension*

11. Course Name: Rural Marketing

Course Code: MBA4023

MBA4023-CO1: Explain rural market, its economy and rural marketing opportunities *Comprehension*

MBA4023-CO2: Apply rural branding and channel strategies with urban markets *Application*

MBA4023-CO3: Analyse the innovations in the rural market *Analysis*

12. Course Name: Product and Brand Management- Concepts and Insights

Course Code: MBA4083

MBA4083-CO1: Summarize Strategic brand management process *Comprehension*

MBA4083-CO2: Apply brand equity models and frameworks for brand valuation *Application*

MBA4083-CO3: Compute & interpret brand performance for brand effectiveness *Application*

13. Course Name: International Marketing

Course Code: MBA4018

MBA4018-CO1: Discover the Stages of International Marketing Involvement *Application*

MBA4018-CO2: Analyze the Global Dynamic Environment & International Trade *Analysis*

MBA4018-CO3: Analyze the role of Culture & Management Styles around the world *Analysis*

14. Course Name: Integrated Marketing Communication

Course Code: MBA4021

MBA4021-CO1: Explain the characteristics of the integrated marketing communications process and their relation to marketing communication objectives *Comprehension*

MBA4021-CO2: Illustrate the process of creating advertisements for brand communication *Application*

MBA4021-CO3: Analyze the effectiveness of the Promotional Program. *Analysis*

15. Course Name: Marketing for Social Impact

Course Code: MBA4020



MBA4020-CO1: Develop an understanding of the meaning and nature of social marketing
Knowledge

MBA4020-CO2: Design appropriate social marketing strategies and tactics to address social marketing issues
Application

MBA4020-CO3: Apply the various tools and techniques to enhance entrepreneurship and employability skills of students
Application

16. **Course Name:** Customer Experience and Insights

Course Code: MBA4075

MBA4075-CO1: Discuss the concept of Customer Experience and its Tools, Trends, Practical ideas and actions for the organization.
Comprehension

MBA4075-CO2: Interpret customer experience models on the online platform and essential customer insight and its Tools, Trends, Practical ideas and actions for the organization.
Application

MBA4075-CO3: identify skills to better function in the customer experience terrain and make better use of digital tools through internet.
Analysis

17. **Course Name:** Experiential Marketing

Course Code: MBA4076

MBA4076-CO1: Apply experiential marketing to key political, social, cultural, environmental and economic issues that shape the marketing of events
Application

MBA4076-CO2: Assess the role of Design Thinking in immersive experiences and events
Analysis

MBA4076-CO3: Analyze various organizational cases for enhancing experiential learning of students
Analysis

18. **Course Name:** Green Marketing

Course Code: MBA4025

MBA4025-CO1: Explain fundamentals of green finance in India and in the world.
Comprehension

MBA4025-CO2: Explain the core concepts of Green ICT for Sustainability and Green Finance and Carbon Market
Application

MBA4025-CO3: Describe Green Manufacturing, Logistics and SCM and Regional Development.
Analysis

19. **Course Name:** Compensation Management

Course Code: MBA4013



MBA4013-CO1: Relate compensation management to theories and concepts of human resources management. *Knowledge*

MBA4013-CO2: Identify the internal and external environmental factors that have an impact on the pay structure of an organization. *Comprehension*

MBA4013-CO3: Demonstrate an understanding of the process of designing a pay structure taking account of the company environment. *Application*

20. Course Name: Learning and Development

Course Code: MBA4014

MBA4014-CO1: Describe learning process using different learning theories. *Knowledge*

MBA4014-CO2: Illustrate the complete training cycle, from identifying the training needs to follow up and support. *Application*

MBA4014-CO3: Recognize essential ingredients of employee development. *Comprehension*

21. Course Name: International Human Resource Management

Course Code: MBA4015

MBA4015-CO1: Define key concepts in International Human Resource Management. *Knowledge*

MBA4015-CO2: Outline international dimensions of Human Resource Management. *Knowledge*

MBA4015-CO3: Classify the factors associated with expatriate recruitment, selection, training and performance. *Analysis*

22. Course Name: Organizational Development and Change

Course Code: MBA4016

MBA4016-CO1: Describe approaches facilitating Organization Development. *Knowledge*

MBA4016-CO2: Estimate the impact of principles of OD on individual's personal work and career life. *Comprehension*

MBA4016-CO3: Modify Organization Design and OD interventions. *Application*

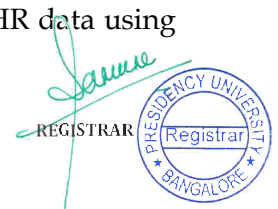
23. Course Name: HR Analytics

Course Code: MBA3010

MBA3010-CO1: Review the concepts and theories of HR Analytics. *Comprehension*

MBA3010-CO2: Analyze the data to develop and streamline HR policies of organization. *Application*

MBA3010-CO3: Apply different descriptive and visualization techniques for HR data using MS-Excel. *Application*



24. Course Name: Workplace Wellbeing and Happiness

Course Code: MBA4084

MBA4084-CO1: Describe the concept, evolution and importance of Happiness, Wellbeing, Workplace happiness and Wellbeing. *Knowledge*

MBA4084-CO2: Express how Workplace happiness and Wellbeing impact human life and organizational performance. *Comprehension*

MBA4084-CO3: Analyze present models, and develop policies, practices related to workplace happiness and wellbeing. *Application*

25. Course Name: Teams Creativity and Decision Making

Course Code: MBA4078

MBA4078-CO1: Describe the crucial factors in building an effective team. *Knowledge*

MBA4078-CO2: Recognize the importance of creativity to visualize and come up with something new, that drives the organizational performance. *Comprehension*

MBA4078-CO3: Demonstrate different decision-making techniques for managers in business. *Application*

MBA4078-CO4: Relate theories, concepts and models of Occupational Stress. *Knowledge*

26. Course Name: Stress Management and Counselling

Course Code: MBA4017

MBA4017-CO2: Identify the impact stress and counseling on employees. *Comprehension*

MBA4017-CO3: Review Stress Management and Counseling practices for organizational effectiveness. *Comprehension*

27. Course Name: Psychology at Work

Course Code: MBA4085

MBA4085-CO1: Relate theories and concepts of Industrial and Organizational Psychology. *Knowledge*

MBA4085-CO2: Identify the factors that have an impact on the psychology of employees. *Comprehension*

MBA4085-CO3: Illustrate and understand of the process of designing a policies and practices related to organizational psychology and performance. *Application*

28. Course Name: Operations in Services-Insights and Applications

Course Code: MBA4069



MBA4069-CO1: Explain the principles, tools and techniques of service operations management *Comprehension*

MBA4069-CO2: Analyze waiting line problems related to various operational services *Analysis*

MBA4069-CO3: Analyze the problems related to facility selection and capacity planning *Analysis*

29. **Course Name:** Digital Operations Management

Course Code: MBA4079

MBA4079-CO1: Describe digital technologies and Analytics can optimize the speed and scale of processes, strategies inventory and quality management, and increase the potential of automation *Knowledge*

MBA4079-CO2: Explain technologies, such as automation, smart controls, big data, Analytics and machine learning are being applied to digitally transform operations management *Comprehension*

MBA4079-CO3: Interpret operations and strategy for improved financial performance *Analysis*

30. **Course Name:** Lean Six Sigma

Course Code: MBA4026

MBA4026-CO1: Explain the concepts of DMAIC and DMADV related to Lean Six Sigma *Comprehension*

MBA4026-CO2: Solve problems related to quality improvements using statistical methods *Application*

MBA4026-CO3: Analyse the optimal units in transportation and assignment problems *Analysis*

31. **Course Name:** Production Planning and Control

Course Code: MBA4029

MBA4029-CO1: Acquire knowledge on concepts pertaining to Production Planning and Control functions. *Knowledge*

MBA4029-CO2: Understand the essence of Work study, Time and Motion Study required in improving efficiency and effectiveness in production area. *Application*

MBA4029-CO3: Apply the concepts of product planning and control process techniques *Application*

32. **Course Name:** Product Innovation and Development

Course Code: MBA4030



MBA4030-CO1: State the product innovation process and its economic viability for manufacturing *Knowledge*

MBA4030-CO2: Comprehend design and continuous improvements to add value for better product innovation *Comprehension*

MBA4030-CO3: Identify the different product development project types, how multi-functionality features enhance products, market segmentation, technology road maps *Application*

33. **Course Name:** Operations Strategy

Course Code: MBA4031

MBA4031-CO1: Identifies the importance and Processes of Operation Strategy *Comprehension*

MBA4031-CO2: Illustrate the designing process Operation Strategy in manufacturing / service organizations. *Application*

MBA4031-CO3: Analyze Options, Constraints and Enablers of Operation Strategy to arrive at appropriate solution in a given situation *Analysis*

34. **Course Name:** Operations Research

Course Code: MBA3044

MBA3044-CO1: Solve LPP problems using graphical and simplex methods *Application*

MBA3044-CO2: Solve a transportation problem *Application*

MBA3044-CO3: Solve an assignment problem *Application*

35. **Course Name:** Global Integrated Supply Chain Management

Course Code: MBA3041

MBA3041-CO1: Explain Outline the role of global supply chain management in business *Knowledge*

MBA3041-CO2: Comprehend Explain various supply chain strategies and planning processes *Comprehension*

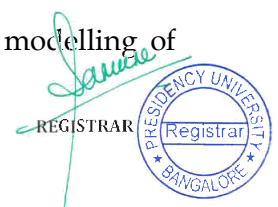
MBA3041-CO3: Apply their knowledge in problem solving and building the Global supply chain model *Analysis*

36. **Course Name:** Supply Chain Modelling and Design

Course Code: MBA4063

MBA4063-CO1: Comprehend the physical, financial and information flows inherent to supply chain *Comprehension*

MBA4063-CO2: Apply the various design approaches to supply chain and modelling of network designs *Application*



MBA4063-CO3: Apply mathematical models and techniques to identify problems in Supply chain *Analysis*

37. Course Name: Data Visualization

Course Code: MBA4033

MBA4033-CO1: Demonstrate basic user interface interactions *Comprehension*

MBA4033-CO2: Prepare basic charts with tableau *Application*

MBA4033-CO3: Construct advanced charts and dashboard *Application*

38. Course Name: Programming for Analytics

Course Code: MBA4086

MBA4086-CO1: Demonstrate programming skills in Python for business analytics *Application*

MBA4086-CO2: Solve tasks across data structures *Application*

MBA4086-CO3: Develop model for decision making *Application*

39. Course Name: Blockchain in Business

Course Code: MBA4080

MBA4080-CO1: Describe basic structure and components of Blockchain *Comprehension*

MBA4080-CO2: Assess the requirements in a Blockchain economy *Application*

MBA4080-CO3: Articulate the value proposition of Blockchain from Strategic perspective *Application*

40. Course Name: Business Strategy in Digital Age

Course Code: MBA4040

MBA4040-CO1: Discuss key trends in digital business strategy *Comprehension*

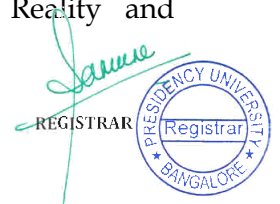
MBA4040-CO2: Relate real-time business situations while using disruptive technology *Application*

MBA4040-CO3: Solve Business Model strategy challenges and opportunities with new resources and capabilities *Application*

41. Course Name: Virtual and Augmented Reality in Business

Course Code: MBA4043

MBA4043-CO1: Describe the technological differences between Virtual Reality and Augmented Reality *Knowledge*



MBA4043-CO2: Explain the adoption of Virtual Reality and Augmented Reality across industries *Comprehension*

MBA4043-CO3: Illustrate available tools, platforms, hardware, and software for new cases using Virtual Reality and Augmented Reality in a specific industry *Application*

42. **Course Name:** Text Mining

Course Code: MBA4036

MBA4036-CO1: Describe how text is handled in Python *Comprehension*

MBA4036-CO2: Apply basic natural language processing methods *Application*

MBA4036-CO3: Illustrate text-based advanced data processing and visualization *Application*

43. **Course Name:** Marketing Analytics

Course Code: MBA4018

MBA4018-CO1: Identify appropriate tools and techniques for customer preference model *Comprehension*

MBA4018-CO2: Apply Marketing Analytics tools for decision-making *Application*

MBA4018-CO3: Apply multiple regression model for sales prediction *Application*

MBA4018-CO4: Analyze customer segments using Cluster Analysis and Market Basket Analysis *Analysis*

44. **Course Name:** Financial Analytics

Course Code: MBA4007

MBA4007-CO1: Apply portfolio analysis using Solver *Analysis*

MBA4007-CO2: Apply What-if tools in finance. *Application*

MBA4007-CO3: Demonstrate financial decisions using VBA *Application*

MBA4007-CO4: Analyze waiting line problems related to operational services *Analysis*

MBA4007-CO5: Calculate game value for problems related to competing situations *Analysis*

MBA4007-CO6: Analyze inventory problems using Simulation techniques *Analysis*

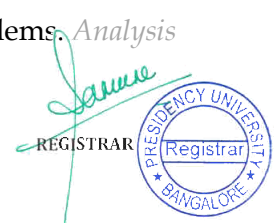
45. **Course Name:** Operations Analytics

Course Code: MBA3015

MBA3015-CO1: Explain the concepts of analytics in decision theory *Comprehension*

MBA3015-CO2: Solve optimization models pertaining to linear programming problems. *Application*

MBA3015-CO3: Calculate optimal units in transportation and assignment problems. *Analysis*



46. Course Name: Content Marketing

Course Code: MBA4068

MBA4068-CO1: Discuss the concept of Content Marketing and its Tools, Trends, Practical ideas and actions for the organization. *Comprehension*

MBA4068-CO2: Prepare customer segments for cost effective content marketing and brand building *Application*

MBA4068-CO3: Identify compelling content for specific audiences *Analysis*

47. Course Name: Website Data Analytics

Course Code: MBA4048

MBA4048-CO1: Describe basic measures and concepts of web Analytics *Comprehension*

MBA4048-CO2: Apply web analytics tools for various real-world business cases. *Application*

MBA4048-CO3: Design a project plan to improve Website metrics using Google Analytics *Creation*

48. Course Name: Digital Consumer Behaviour

Course Code: MBA4052

MBA4052-CO1: Distinguish between traditional and contemporary digital consumer behaviour. *Comprehension*

MBA4052-CO2: Interpret the internal factors affecting individual digital consumer. *Application*

MBA4052-CO3: Analyze the new media tools for brand management and its privacy issues influencing Online advertising and search behaviour. *Analysis*

49. Course Name: Search Engine Marketing (CA Course)

Course Code: MBA4054

MBA4054-CO1: Explain the concept of Search Engine Marketing *Comprehension*

MBA4054-CO2: Apply Google Ads for SEM *Application*

MBA4054-CO3: Apply Microsoft Advertising for SEM *Application*

50. Course Name: Digital Display Advertising

Course Code: MBA4053

MBA4053-CO1: Discuss the concept of Display Advertising and its Tools, Trends, Practical ideas and actions for the organization. *Comprehension*

MBA4053-CO2: Analyze the Display Advertising through planning and targeting with good keywords and to build Display Campaign within the budget. *Analysis*



MBA4053-CO3: Use digital tools like YouTube, Facebook and LinkedIn for digital display advertisement. *Application*

51. Course Name: Influencer Marketing

Course Code: MBA4087

MBA4087-CO1: Discuss the notion of Influencers in Influencer Marketing *Comprehension*

MBA4087-CO2: Examine the influencer campaigns to generate the right messages to achieve goals *Application*

MBA4087-CO3: Analyze “influence” qualitatively and quantitatively using popular metrics *Analysis*

52. Course Name: Planning for logistics

Course Code: MBA4062

MBA4062-CO1: Discuss various logistics processes and the planning framework. *Comprehension*

MBA4062-CO2: Indicate the role of distribution centers and warehouses related to logistics planning. *Comprehension*

MBA4062-CO3: Illustrate various developments related to MRP and MRPII. *Application*

53. Course Name: Maritime Logistics

Course Code: MBA4066

MBA4066-CO1: Discuss various maritime logistics processes and the facilitation factors. *Comprehension*

MBA4066-CO2: Indicate the role of distribution centres related to shipping *Comprehension*

MBA4066-CO3: Illustrate various developments related to Hinterland logistics and global supply chain. *Application*

54. Course Name: International Supply Chain Management

Course Code: MBA4065

MBA4065-CO1: Apply the Selection of supplier and Procurement Management *Application*

MBA4065-CO2: Apply Strategic cost management, Conflict Managements, Legal and Contractual Issues in International SCM. *Application*

MBA4065-CO3: Analyze the demand management, supply chain sustainability and its performance. *Analysis*



55. Course Name: Supply Chain Analytics

Course Code: MBA4035

MBA4035-CO1: Analyze the demand in supply chain using various Forecasting methods.
Analysis

MBA4035-CO2: Calculate least time for job scheduling in supply chains. *Analysis*

MBA4035-CO3: Calculate game value for various vendor strategies using payoffs *Analysis*

56. Course Name: Data Analytics using Cloud Technology

Course Code: MBA4039

MBA4039-CO1: Demonstrate the concepts of Azure analytics *Application*

MBA4039-CO2: Prepare the given data for machine learning processes *Application*

MBA4039-CO3: Demonstrate AWS techniques for machine learning based business analytics
Application

57. Course Name: E Commerce Infrastructure

Course Code: MBA4056

MBA4056-CO1: Explain the various components of Internet and Web Technologies
Comprehension

MBA4056-CO2: Explain various digital technologies used in E Commerce and Business
Application *Comprehension*

MBA4056-CO3: Analyze E-Commerce Business Environment which impacts in
organizational strategy development *Application*

58. Course Name: E Commerce Supply Chain and Logistics Management

Course Code: MBA3034

MBA3034-CO1: Explain the significance of Ecommerce, business models related to
Ecommerce. IT infrastructure and legal aspects *Knowledge*

MBA3034-CO2: Learn and explain the concepts of Inventory management and use of modern
technologies in Supply chain *Application*

MBA3034-CO3: Apply the concept of supply chain, its drivers, and its performance
Application

59. Course Name: E Commerce Strategy

Course Code: MBA4072

MBA4072-CO1: Discuss the concepts such as e business strategy, e business success factors
and payment types *Comprehension*



MBA4072-CO2: Prepare appropriate strategic frameworks for an e-commerce startup, business unit or pre-existing enterprise *Application*

MBA4072-CO3: Analyze the Supply chain and Procurement network of e Business entity *Analysis*

60. **Course Name:** Economics for Managers

Course Code: MBA1015

MBA1015-CO1: Explain the concepts and apply equations and graphs to Illustrate economic behavior at the individual, firm and policy levels *Application*

MBA1015-CO2: Relate the characteristics of different market structures and their implications for the firm's entry, sustainability and exit. *Application*

MBA1015-CO3: Apply concepts of consumption, investment and savings, Aggregate supply, and Aggregate demand in business. *Analysis*

MBA1015-CO4: Interpret the effect of fiscal instruments and monetary instruments with respect to fiscal policies on business. *Application*

MBA1015-CO5: Employ the 'economic way of thinking' for managerial decision making *Application*

61. **Course Name:** Technology Foundations for Business

Course Code: MBA1018

MBA1018-CO1: Define Information Technology concepts *Knowledge*

MBA1018-CO2: Describe key IT systems and their purpose in Organizations *Comprehension*

MBA1018-CO3: Discuss how IT Systems are used for competitive advantage *Application*

62. **Course Name:** Financial Management

Course Code: MBA2024

MBA2024-CO1: Compute the Time Value of Money for financial decision making *Application*

MBA2024-CO2: Analyze the Weighted Average Cost of Capital of a Business, Capital Structure and implication of Dividend Decisions *Analysis*

MBA2024-CO3: 3. Employ various Capital Budgeting Evaluation Techniques for project selection *Application*

MBA2024-CO4: 4. Calculate the Working Capital requirements using Operating Cycle approach *Analysis*

63. **Course Name:** Human Resource Management

Course Code: MBA2027



MBA2027-CO1: Describe the scope, functions and recent trends in Human Resource Management. *Knowledge*

MBA2027-CO2: Explain the methods of training and development as well as appraisal systems in the organizational context *Comprehension*

MBA2027-CO3: Illustrate the concepts of compensation, employee retention, welfare and social security in managing human resources *Application*

MBA2027-CO4: Discuss the practices of industrial relations and discipline at workplace. *Comprehension*

64. **Course Name:** Fundamentals of Business Analytics

Course Code: MBA2020

MBA2020-CO1: Define what Business Analytics is and recall the skill sets needed to be an analyst *Knowledge*

MBA2020-CO2: Describe various concepts, tools and techniques used in Business Analytics today *Comprehension*

MBA2020-CO3: Apply analytical tools and techniques to solve real world business problems *Application*

65. **Course Name:** Digital and Strategic Marketing

Course Code: MBA2038

MBA2038-CO1: Understand the marketing strategies for different products and services *Comprehension*

MBA2038-CO2: Apply marketing innovation strategies for new product / service / idea. *Application*

MBA2038-CO3: Apply the digital marketing tools for achieving strategic goals *Application*

MBA2038-CO4: Analyse different digital marketing tools and techniques for strategic fit *Analysis*

66. **Course Name:** Business Research Methods

Course Code: MBA2033

MBA2033-CO1: Apply the relevant business research methods for solving business research problems. *Application*

MBA2033-CO2: Use appropriate data collection methods to carry out business research. *Application*

MBA2033-CO3: Employ suitable measurement techniques and sampling designs to elicit data. *Application*

MBA2033-CO4: Analyze the data using appropriate statistical tools *Analysis*



67. Course Name: Production and Logistics Management

Course Code: MBA2040

MBA2040-CO1: Illustrate the different layout designs in manufacturing & services *Application*

MBA2040-CO2: Compute Forecast errors for given data on various operational data *Application*

MBA2040-CO3: Solve problems related to Inventory Management *Application*

MBA2040-CO4: Solve Logistics problem related to Transportation networks *Application*

68. Course Name: Personal Wealth Management

Course Code: MBA3037

MBA3037-CO1: Explain the process of Personal Financial Planning *Knowledge*

MBA3037-CO2: Determine the need for Insurance and Investments Planning *Comprehension*

MBA3037-CO3: Identify various Tax Planning Strategies to reduce the burden of tax. *Comprehension*

MBA3037-CO4: Prepare a Retirement plan considering the given needs of the individuals *Application*

69. Course Name: Team Dynamics

Course Code: MBA3038

MBA3038-CO1: Describe the basic concepts of teams and team work. *Knowledge*

MBA3038-CO2: Explain the process of team building and development *Comprehension*

MBA3038-CO3: Recognize the challenges of team leadership and team empowerment *Comprehension*

MBA3038-CO4: Demonstrate the skills required to assess team performance and manage work behaviors in the diversified teams. *Application*

70. Course Name: Aptitude Training

Course Code: PPS4001

PPS4001-CO1: Recall all the basic mathematical concepts they learnt in high school. *Knowledge*

PPS4001-CO2: Identify the principle concept needed in a question. *Knowledge*

PPS4001-CO3: Solve the quantitative and logical ability questions with the appropriate concept. *Application*

PPS4001-CO4: Analyze the data given in complex problems. *Analysis*

PPS4001-CO5: Infer the accurate meanings behind words and sentences *Comprehension*



71. Course Name: Personality Development-Intermediate

Course Code: PPS2003

PPS2003-CO1: Demonstrate confidence and effective communication *Knowledge*

PPS2003-CO2: Prepare professional LinkedIn account and build business networks
Application

PPS2003-CO3: Recognize problem solving skills *Comprehension*

PPS2003-CO4: Discuss emotional intelligence components *Comprehension*



School of Design

1. Course Name: Applied Visual Design

Course Code: DES3005

DES3005-CO1: Illustrate a poster using various principles of design *Knowledge*

DES3005-CO2: Sketch a logo with basic shape *Comprehension*

DES3005-CO3: Illustrate a social media poster for a event *Application*

2. Course Name: Introduction to Branding and Brand Identity

Course Code: DES3006

DES3006-CO1: Interpret and associate with the different concepts of Branding. *Knowledge*

DES3006-CO2: Identify various branding strategies. *Comprehension*

DES3006-CO3: Apply learnings to create brand identities. *Application*

3. Course Name: Basics of Photography

Course Code: DES1126

DES1126-CO1: Understand the practical exposure to handle camera functions and lighting techniques *Knowledge*

DES1126-CO2: Study the image making skills in indoor and outdoor conditions. *Comprehension*

DES1126-CO3: Explore the techniques and aesthetics in photography. *Application*

4. Course Name: Research Methodology

Course Code: DES2041

DES2041-CO1: 1. Demonstrate knowledge of research processes (reading, evaluating, and developing) *Knowledge*

DES2041-CO2: Compare and examine the different approaches towards Communication Design. *Knowledge*

DES2041-CO3: Understand the various type of communication which helps communication made easy. *Knowledge*

5. Course Name: Marketing and Advertising for Designers

Course Code: DES2034

DES2034-CO1: Interpret and associate with the different principles of marketing and integrated marketing communication. *Knowledge*



DES2034-CO2: Differentiate between different kind of Advertising appeals. *Comprehension*

DES2034-CO3: Apply learnings to create different kind of advertising copy. *Application*

6. Course Name: Introduction to Interaction Design(DE-III)

Course Code: DES2067

DES2067-CO1: Identify the importance of user-centered design *Knowledge*

DES2067-CO2: Discuss the sensory, cogni-tive and physical capabili-ties of users in context of design of interactive products. *Comprehension*

DES2067-CO3: Define the process of interaction design. *Application*

7. Course Name: Art of Design Language

Course Code: DES2080

DES2080-CO1: Define a lexicon of key terms relating to form, meaning and audience *Knowledge*

DES2080-CO2: Explain the criteria for successful outcomes in a design project *Comprehension*

DES2080-CO3: Express objectively the visual form, meaning and context for a given work *Comprehension*

DES2080-CO4: Apply work of design in an objective way *Application*

8. Course Name: Brand Building in Design

Course Code: DES2081

DES2081-CO1: Define an overview of the Key terms related to Brand Building in design implementation *Knowledge*

DES2081-CO2: Identify various types of Brand Building Styles and Integrated Branding Concepts. *Comprehension*

DES2081-CO3: Interpret the process of Brand Building Design techniques developed for various websites and Applications and how the process was performed. *Application*

9. Course Name: Packaging Design

Course Code: BDC308

BDC 308-CO1: Analyse different visual elements and principles in a composition of Packaging Design *Knowledge*

BDC 308-CO2: Compose artworks from ideation to final prototype. *Comprehension*

BDC 308-CO3: Identify advanced visual design principles to apply on the Packaging Design *Comprehension*

BDC 308-CO4: Simple packaging design *Application*



10. Course Name: User Interface Design

Course Code: BDC309

BDC 309-CO1: Understand iterative user-interface design of graphical user interfaces
Knowledge

BDC 309-CO2: Apply the user Interfaces to different devices and requirements, *Comprehension*

BDC 309-CO3: Create high quality professional documents and artifacts related to the design process *Application*

11. Course Name: Motion Graphics for Communication Designers

Course Code: BDC311

BDC 311-CO1: Illustrate a graphic design for motion graphics *Knowledge*

BDC 311-CO2: Sketch a storyboard for motion graphics *Comprehension*

BDC 311-CO3: Illustrate a character for walk cycle *Comprehension*

BDC 311-CO4: Recognize the trends in motion graphics and apply them *Application*

12. Course Name: Film Making for Communication Designers

Course Code: BDC312

BDC 312-CO1: Recognize the trend in film making *Knowledge*

BDC 312-CO2: Identify the needs of film making *Comprehension*

BDC 312-CO3: Illustrate storyboard for the script. *Application*

BDC 312-CO4: Apply the learnings to create a film *Application*

13. Course Name: Design Research Methodology and Research Publication

Course Code: BDC313

BDC 313-CO1: Recognize various Design Research methods. *Knowledge*

BDC 313-CO2: Identify various possibilities, limits, and challenges of Design Research methods *Comprehension*

BDC 313-CO3: Develop and publish a Term Paper in a journal. *Application*

14. Course Name: Brand Building in Design

Course Code: DES2081

DES2081 -CO1: Define an overview of the Key terms related to Brand Building in design implementation *Knowledge*

DES2081 -CO2: Identify various types of Brand Building Styles and Integrated Branding Concepts. *Comprehension*



DES2081 -CO3: Interpret the process of Brand Building Design techniques developed for various websites and Applications and how the process was performed. *Application*

15. Course Name: Basics of Pattern Making

Course Code: DES1020

DES1020-CO1: Identify Body ratio, Exterior anatomy of a female, male and kids of different age group. *knowledge*

DES1020-CO2: Distinguish Different Measurement of Designs in various products such as innerwear and outerwear. *knowledge*

DES1020-CO3: Recognize International Measurement techniques used in different continents such Size (0,1,2,3,4), Sizes such as S,M,L,XL and sizes according to measurement (male Shoulder-38,40,42 : female Chest-32,34,36 etc..). *Comprehension*

DES1020-CO4: Compute-conversion between different size system development of patterns through them. *Application*

16. Course Name: Basic Sewing Techniques

Course Code: DES1021

DES1021-CO1: Define the terminologies used in sewing *knowledge*

DES1021-CO2: Explain the types and functions of sewing machines *knowledge*

DES1021-CO3: Operate the sewing machine and produce basic stitches *Comprehension*

DES1021-CO4: Identify of different types of stitches, seams, seam finishes & fullness *Application*

17. Course Name: Elements of Fashion Illustration

Course Code: DES2007

DES2007-CO1: Illustrate the basic body forms and proportions *Knowledge*

DES2007-CO2: Identify the head theory and postures – static and dynamic *Comprehension*

DES2007-CO3: Sketch the basic body poses and perspectives *Application*

DES2007-CO4: Relate the human body in proportions relevant to fashion illustration *Analysis*

DES2007-CO5: Select mediums to sketch and render life forms *synthesis*

18. Course Name: Fashion Accessory Design

Course Code: DES1039

DES1039-CO1: Introduction to fashion accessories *Knowledge*

DES1039-CO2: Material,Process, Design development and Production *Comprehension*

DES1039-CO3: Jewellery design and production *Application*



19. Course Name: Production Planning and Control

Course Code: DES2013

DES2013-CO1: Introduction to apparel industry processes *Knowledge*

DES2013-CO2: Pre-production processes in apparel manufacture *Comprehension*

DES2013-CO3: Apparel accessories, Inspection, Packing and Dispatch *Application*

20. Course Name: Art of Design Language

Course Code: DES2080

DES2080-CO1: Define a lexicon of key terms relating to form, meaning and audience *Knowledge*

DES2080-CO2: Explain the criteria for successful outcomes in a design project *Comprehension*

DES2080-CO3: Express objectively the visual form, meaning and context for a given work *Comprehension*

DES2080-CO4: Apply work of design in an objective way *Application*

21. Course Name: Brand Building in Design

Course Code: DES2081

DES2081-CO1: Define an overview of the Key terms related to Brand Building in design implementation *Knowledge*

DES2081-CO2: Identify various types of Brand Building Styles and Integrated Branding Concepts. *Comprehension*

DES2081-CO3: Interpret the process of Brand Building Design techniques developed for various websites and Applications and how the process was performed. *Application*

22. Course Name: Fabric Manipulations & Embellishments

Course Code: BDF306

BDF 306-CO1: Understand different art work and their Origins. *knowledge*

BDF 306-CO2: Identify different hand Stitches and Styles of Surface Ornamentation. *Comprehension*

BDF 306-CO3: Apply traditional techniques to Develop products and Accessories. *application*

23. Course Name: Draping & Garment Finishing

Course Code: BDF307

BDF 307-CO1: Understand basic skills and techniques in positioning and pinning fabric on a dress form to develop *Knowledge*



BDF 307-CO2: Structure of a garment/accessory design -- to support and expand the fashion design process. *Comprehension*

BDF 307-CO3: Identify and recognize the patterning and fitting problems and solutions with draping techniques. *Application*

BDF 307-CO4: Apply and manipulate draping Techniques. *Comprehension*

BDF 307-CO5: Interpret their creative design ideas through various draping techniques. *Synthesis*

24. Course Name: Wet Processing of Textiles

Course Code: BDF308

BDF 308-CO1: Sequence of wet processing operations *Knowledge*

BDF 308-CO2: Methods and materials in wet processing *Comprehension*

BDF 308-CO3: Finishing process in wet processing *Application*

25. Course Name: Visual Merchandising

Course Code: BDF309

BDF 309-CO1: Identify and define the design concepts applied to visual merchandising *Knowledge*

BDF 309-CO2: Discuss the processes involved in creating effective theme-based displays *Comprehension*

BDF 309-CO3: Review the meaning-making process to display themes through visual mediums *Comprehension*

BDF 309-CO4: Apply effective planning strategies to maximize consumer interest and sales *Application*

26. Course Name: Fashion Management

Course Code: BDF310

BDF 310-CO1: Define the fashion marketing concepts *Knowledge*

BDF 310-CO2: Discuss the importance of economics in the fashion industry *Comprehension*

BDF 310-CO3: Interpret strategies and techniques required in brand management *Application*

27. Course Name: Fashion Marketing & Communication

Course Code: BFD412

BFD 412-CO1: Identify brand factors communicating across promotional platforms *Knowledge*

BFD 412-CO2: Discuss the relationship between the brand, products and audience *Comprehension*



BFD 412-CO3: Discover the role of marketing and communication in the fashion industry
Application

28. Course Name: Design Thinking in Fashion

Course Code: BFD413

BFD 413-CO1: Describe Design thinking essentials *Knowledge*

BFD 413-CO2: Indicate grey areas in designs relating to fashion trade. *Comprehension*

BFD 413-CO3: Interpret design flaws with possible solutions *Application*

29. Course Name: Game Ideation

Course Code: DES1107

DES 1107-CO1: Identify the fundamentals of Game Design. *Knowledge*

DES 1107-CO2: Understand various methods for generating video game ideas. *Comprehension*

DES 1107-CO3: Apply techniques to create proper documentation (GDD) outlining the game idea, after properly validating them. *Application*

30. Course Name: Concept Art

Course Code: DES2054

DES 2054-CO1: Recognize different forms and shapes. *Knowledge*

DES 2054-CO2: Identify different art work and their Origins. *Comprehension*

DES 2054-CO3: Apply techniques to develop characters for games. *Application*

31. Course Name: Advanced Character Design

Course Code: DES3020

DES 3020-CO1: Identify the various elements of advanced character development *Knowledge*

DES 3020-CO2: Synthesise various modelling and texturing techniques of the character
Synthesis

DES 3020-CO3: Apply skin texturing techniques to a character *Application*

32. Course Name: Rigging and Animation(2D)

Course Code: DES2069

DES 2069-CO1: List all the Principles of Animation *Knowledge*

DES 2069-CO2: Identify the different methods of animation *Comprehension*

DES 2069-CO3: Apply all the methods to create a story animation *Application*



33. Course Name: Photography and Videography

Course Code: DES2066

DES 2066-CO1: Describe the importance of lighting for photos and videos *Knowledge*

DES 2066-CO2: Describe each technique and aesthetics in photography and videography *Comprehension*

DES 2066-CO3: Demonstrate the use of various kinds of cameras and how to manipulate them for photography and videography *Application*

34. Course Name: Brand Building in Design- Open Elective

Course Code: DES2081

DES 2081-CO1: Define an overview of the Key terms related to Brand Building in design implementation *Knowledge*

DES 2081-CO2: Identify various types of Brand Building Styles and Integrated Branding Concepts. *Comprehension*

DES 2081-CO3: Interpret the process of Brand Building Design techniques developed for various websites and Applications and how the process was performed *Application*

35. Course Name: Advanced C# for Game Development

Course Code: BDG307

BDG307-CO1: Recognize different programming concepts *Knowledge*

BDG307-CO2: Interpret use of various types of collections in C# *Comprehension*

BDG307-CO3: Create a game design using C# game development framework *Application*

BDG307-CO4: Analyze industry requirements for game programming *Analysis*

36. Course Name: Digital Sculpting (Discipline -IV)

Course Code: BDG308

BDG308-CO1: Recognize different forms and shapes. *Knowledge*

BDG308-CO2: Identify different uses of digital sculpting *Comprehension*

BDG308-CO3: Apply techniques to develop 3D models for games. *Application*

37. Course Name: Advanced Level Design

Course Code: BDG309

BDG309-CO1: Identify the process of game-level creation. *Knowledge*



BDG309-CO2: Understand level design principles for puzzle design and environment design.
Comprehension

BDG309-CO3: Apply level design techniques and create levels for a hyper casual game.
Application

BDG309-CO4: Identify the critical path in a 3D level and construct the game level using the principles taught. *Analysis*

38. **Course Name:** Advanced Texturing and Rendering

Course Code: BDG310

BDG310-CO1: Identify the given tool and techniques *Knowledge*

BDG310-CO2: Discuss different methods to texture *Comprehension*

BDG310-CO3: Apply all the techniques to get the texture *Application*

BDG310-CO4: Examine each material for proper texturing *Analysis*

39. **Course Name:** Basic AI in Games

Course Code: BDG311

BDG311-CO1: Identify the need and importance of AI in gaming. *Knowledge*

BDG311-CO2: Understand the different AI techniques used in Game Design. *Comprehension*

BDG311-CO3: Apply programming techniques and create basic AI behaviors. *Application*

40. **Course Name:** Introduction to 2D Animation

Course Code: BSM2001

BSM2001-CO1: Reproduce the principles of animation. *Knowledge*

BSM2001-CO2: Create of motion/scene using observational skills. *Comprehension*

BSM2001-CO3: Demonstrate frames rates for classical. *Application*

41. **Course Name:** Photography

Course Code: BSM2003

BSM2003-CO1: Understand the practical exposure to handle camera functions and lighting techniques, *Knowledge*

BSM2003-CO2: Study the image making skills in indoor and outdoor conditions
Comprehension

BSM2003-CO3: Explore the techniques and aesthetics in photography. *Application*

42. **Course Name:** Advertising & Public Relation

Course Code: BSM2016



BSM2016-CO1: Identify the meaning, concept and tools of Advertising and Public Relations. *Knowledge*

BSM2016-CO2: Discuss the role and importance of advertising in society. *Comprehension*

BSM2016-CO3: Interpret organizational workflow of Advertising Agency. *Application*

43. Course Name: UI/UX Design

Course Code: BSM2020

BSM2020-CO1: Define an overview of the Key terms related to user interfaces and user interface design implementation *Knowledge*

BSM2020-CO2: Describe various types of computer users and computer use contexts in UI & UX Design *Comprehension*

BSM2020-CO3: Interpret the process of UI & UX Design techniques developed with various equipment and how the process was performed. *Application*

44. Course Name: Studio Management

Course Code: BSM2032

BSM2032-CO1: Understand the various types of studios *Knowledge*

BSM2032-CO2: Explain various elements of the architectural layout of multimedia studio *Comprehension*

BSM2032-CO3: Demonstrate the use of various types of equipment available in multimedia studio *Application*

45. Course Name: Anatomy Study

Course Code: BSM3025

BSM3025-CO1: Understand the basic construction of human body structure. *Knowledge*

BSM3025-CO2: Explain the proportion and construction of the human body structure. *Comprehension*

BSM3025-CO3: Draw and demonstrate the various types of angles of human anatomy *Application*

46. Course Name: History and Pipeline of Animation

Course Code: BSM2004

BSM2004-CO1: Define an overview of the evolution of animation, and how animation came into existence *Knowledge*

BSM2004-CO2: Describe the materials used and the techniques employed to make a wide variety of animated movies *Comprehension*



BSM2004-CO3: Interpret the process of animation techniques developed with various equipment and how the process was performed. *Application*

47. Course Name: Introduction to 3D Animation

Course Code: BSM2007

BSM2007-CO1: Define an overview of the unique features of the digital 3D animation workspace. *Knowledge*

BSM2007-CO2: Identify basic 3D models, Animations, and characteristics of rendering 3D objects for optimal system processing and analysis. *Comprehension*

BSM2007-CO3: Interpret the process of 3D animation techniques developed for Movies and Applications and how the process was performed. *Application*

48. Course Name: 3D Rigging and Animation

Course Code: BSM3016

BSM3016-CO1: Define an overview of the unique features of the digital 3D animation and Rigging workspace. *Knowledge*

BSM3016-CO2: Identify basic 3D rigged models, Animations and characteristics of rendering 3D objects for optimal system processing and analysis. *Comprehension*

BSM3016-CO3: Interpret the process of 3D animation techniques and Rigging concepts developed for Movies and Applications and how the process was performed. *Application*

BSM3016-CO4: Utilize the functions of various Menus, Sub menus and Interfaces associated with Animation Software to Create his /her own animated Rigged Characters *Application*

49. Course Name: Open Elective-I Brand Building for Designers

Course Code: DES2081

DES2081-CO1: Define an overview of the Key terms related to Brand Building in design implementation *Knowledge*

DES2081-CO2: Identify various types of Brand Building Styles and Integrated Branding Concepts. *Comprehension*

DES2081-CO3: Interpret the process of Brand Building Design techniques developed for various websites and Applications and how the process was performed. *Application*

50. Course Name: Basic prototyping methods and processes

Course Code: DES1076

DES1076-CO1: Identify the materials, their properties and their derivatives and reconstruct them for the design concept. *Knowledge*

DES1076-CO2: Select the materials, tools and techniques based on end use/applications. *Comprehension*



DES1076-CO3: Demonstrate the prototype using materials, tools and Techniques to make prototype *Application*

51. Course Name: Product Rendering Techniques

Course Code: DES2084

DES2084-CO1: Recognize the fundamentals of product rendering and sketching *Knowledge*

DES2084-CO2: Distinguish between the Product Surfaces' materials and finishing *Comprehension*

DES2084-CO3: Interpret the fundamental guidelines to achieve accurate product rendering. *Application*

52. Course Name: Simple Product Design

Course Code: DES2051

DES2051-CO1: Recognize the fundamentals of reverse engineering and product design *Knowledge*

DES2051-CO2: Distinguish Reverse Engineering Process *Comprehension*

DES2051-CO3: Interpret the CAD Data and Redesign the Products *Application*

DES2051-CO4: Analyze the existing product and create new products *Analysis*

53. Course Name: Product Representation Techniques (Discipline Elective V)

Course Code: DES2086

DES2086-CO1: Recognize the product representation techniques *Knowledge*

DES2086-CO2: Distinguish product representation context in the suitable outcome *Comprehension*

DES2086-CO3: Interpret the fundamental guidelines to product presentation types. *Application*

54. Course Name: Digital Illustration (Discipline Elective VII)

Course Code: DES2083

DES2083-CO1: Practice and become proficient in the features of Adobe Illustrator and Photoshop. *Knowledge*

DES2083-CO2: Develop individual ways of creating artworks that balance technical proficiency, accuracy, and visual interest. *Comprehension*

DES2083-CO3: Interpret texts and concepts into visual images *Application*



55. Course Name: Color Material Trim Design

Course Code: BDP307

BDP 307-CO1: Understand the taste and preferences of customers through empirical research. *Knowledge*

BDP 307-CO2: Apply the process of developing color and material trim to find finishes for the product through research. *Comprehension*

BDP 307-CO3: Develop color, material trims (swatches) for a given brief to test the learning of the course. *Application*

56. Course Name: Advance Ergonomics

Course Code: BDP310

BDP 310-CO1: Identify the significance of ergonomics in product design. *Knowledge*

BDP 310-CO2: Explain the ergonomic aspects used in products. *Comprehension*

BDP 310-CO3: Prepare new forms/designs for enhanced solutions for specified target problem or opportunity area. *Application*

57. Course Name: Simple Product Design-Prototyping

Course Code: BDP311

BDP 311-CO1: Recognize the fundamentals of prototyping *Knowledge*

BDP 311-CO2: Distinguish between the materials and finishing *Comprehension*

BDP 311-CO3: Interpret the guidelines for prototyping and executing them on products *Application*

BDP 311-CO4: Analyze the material and their application in product design *Analysis*

BDP 311-CO5: Design a new product using the materials and their finishing *Synthesis*

58. Course Name: Design studio foundation in spatial language

Course Code: DES2015

DES 2015-CO1: Understand the basis of form and space and elements, principles of design *Knowledge*

DES 2015-CO2: Explain the relationship between architectural and interior spaces *Comprehension*

DES 2015-CO3: Analyze the site and drawing inferences for use at the designing stage *Analysis*

DES 2015-CO4: Create design with the help of given drawing requirements, format and model Creation of various space design assets *Evaluation*

DES 2015-CO5: Understand the basis of form and space and elements, principles of design *Synthesis*



59. Course Name: Building Construction and Detailing

Course Code: DES2023

DES 2023-CO1: To be able to identify elements of a built structure. *knowledge*

DES 2023-CO2: To be able to distinguish the technical specifications of the various elements.
Comprehension

DES 2023-CO3: To be able to illustrate the design elements in a professional manner.
Application

60. Course Name: Advance Material Technology

Course Code: DES1047

DES 1047-CO1: Understand the Basic materials used in construction and to understand the methods of construction techniques. *Knowledge*

DES 1047-CO2: Employ the various materials while highlighting the current trends and innovations in architectural and interior projects. *Comprehension*

DES 1047-CO3: Apply appropriate materials for various spaces in architectural design and interiors of buildings. *Application*

61. Course Name: Basic Furniture Design

Course Code: DES2020

DES 2020-CO1: CO 1 Successfully identifies elements of furniture.
Knowledge

DES 2020-CO2: CO 2 To provide technical specifications of the various elements.
Comprehension

DES 2020-CO3:

To be able to draw these elements and detail them in a professional manner. *Application*

62. Course Name: History of Architecture

Course Code: DES1045

DES 1045-CO1: To be able to explain the importance of conserving heritage in the modern context. *Analysis*

DES 1045-CO2: To be able to interpret heritage in the modern day context through different space making elements. *Analysis*

DES 1045-CO3: To Design a space in a modern context using the knowledge of heritage interiors. *Synthesis*



63. Course Name: Interior Visualization

Course Code: DES1055

DES 1055-CO1: Apply the learning of advance representation techniques learned to sketch objects and their construction for smooth communication *Knowledge*

DES 1055-CO2: Apply the knowledge of technical drawing to depict construction of an object through CAD skills. *Application*

DES 1055-CO3: Illustrate the color material and finish of the product to depict their ideas on rendering software. *Application*

64. Course Name: Design Studio III

Course Code: BDS306

BDS 306-CO1: Illustrate the knowledge of health interior design fundamentals. *Comprehension*

BDS 306-CO2: Identify the spatial environment and requirements of health facilities. *Knowledge*

BDS 306-CO3: Categorize of materials in surface finish required for health care setting. *Comprehension*

BDS 306-CO4: Apply and development of the design process; demonstrating through relevant communication skills. *Application*

BDS 306-CO5: Produce a variety of concept and finished physical models. *Comprehension*

65. Course Name: Eco-Friendly Interiors

Course Code: BDS307

BDS 307-CO1: Identify the importance of eco-friendly materials. *Knowledge*

BDS 307-CO2: Apply knowledge of eco friendly materials in interiors. *Application*

BDS 307-CO3: Use the principles, techniques to create a sustainable and eco friendly interior. *Application*

66. Course Name: Landscape Design

Course Code: BDS308

BDS 308-CO1: Ability to identify contemporary, indigenous landscape design schemes *Knowledge*

BDS 308-CO2: Recognize the importance of landscape and sustainable design schemes. *Comprehension*

BDS 308-CO3: Analyze the various types of indoor and outdoor plants and their planting techniques. *Analysis*

BDS 308-CO4: Evaluate the psychological impact of landscape in interior and architectural design. *Evaluation*



BDS 308-CO5: Ability to design landscape in interiors as per given requirement. *Synthesis*

67. Course Name: Retail Design

Course Code: BDS309

BDS 309-CO1: Understand visual merchandising concepts, theories, processes, and techniques in various retail environments. *Knowledge*

BDS 309-CO2: Apply strategies for making profitable display decisions for retailers. *Comprehension*

BDS 309-CO3: Solve visual merchandising problems by integrating critical thinking and practice.

Comprehension

BDS 309-CO4: Develop retail store displays based upon aspects of store image, merchandise type, target market characteristics, and promotional theme. *Analysis*

68. Course Name: Basics of Manufacturing Process Design

Course Code: DES1083

DES1083-CO 1: Identify the manufacturing processes based on the materials and their properties or application. *Knowledge*

DES1083-CO 2: Select the materials, properties and their applications and utilize them for the design concept. *Comprehension*

DES1083-CO 3: Apply the materials, construction or design and manufacturing techniques based on their purpose or criteria for application. *Application*

69. Course Name: Printing and Publication

Course Code: BDC310

BDC310-CO1: Awareness of the printing history *Knowledge*

BDC310-CO2: Identify various possibilities, limits, and challenges of printing techniques. *Comprehension*

BDC310-CO3: Define perception of color printing process- color Scheme, color separation, color correction and reproduction *Application*

BDC310-CO4: Uses of visuals and typography in the trends of printing and publication, generalising it's outcome in communication design. *Application*

70. Course Name: Graduation Project

Course Code: BCD407

BCD407-CO1: Identify the design problems related to local, regional, national or global needs. *Knowledge*



BCD407-CO2: Apply appropriate techniques for designing solutions to the intended problem.
Comprehension

BCD407-CO3: Design the experiments as per the standards and specifications. *Application*

BCD407-CO4: Interpret the events and results for meaningful conclusions. *Application*

71. Course Name: Portfolio & Garment Collection

Course Code: BFD405

BFD405-CO1: Identify the design problems related to local, regional, national or global needs.
Knowledge

BFD405-CO2: Apply appropriate techniques for designing solutions to the intended problem.
Comprehension

BFD405-CO3: Design the experiments as per the standards and specifications. *Application*

BFD405-CO4: Interpret the events and results for meaningful conclusions. *Application*

72. Course Name: Internship-Product Design

Course Code: BPD405

BPD405-CO1: 1. Identify the design problems related to local, regional, national or global needs. *Knowledge*

BPD405-CO2: Apply appropriate techniques for designing solutions to the intended problem.
Comprehension

BPD405-CO3: Design the experiments as per the standards and specifications. *Application*

BPD405-CO4: Interpret the events and results for meaningful conclusions. *Application*

73. Course Name: Graduation Project-Product Design

Course Code: BPD408

BPD408-CO1: 1. Identify the design problems related to local, regional, national or global needs. *Knowledge*

BPD408-CO2: Apply appropriate techniques for designing solutions to the intended problem.
Comprehension

BPD408-CO3: Design the experiments as per the standards and specifications. *Application*

BPD408-CO4: Interpret the events and results for meaningful conclusions. *Application*

74. Course Name: Product Portfolio

Course Code: BPD410

BPD410-CO1: 1. Identify the design problems related to local, regional, national or global needs. *Knowledge*



BPD410-CO2: Apply appropriate techniques for designing solutions to the intended problem.
Comprehension

BPD410-CO3: Design the experiments as per the standards and specifications. *Application*

BPD410-CO4: Interpret the events and results for meaningful conclusions. *Application*

75. **Course Name:** Design Thesis

Course Code: BSD403

BSD403-CO1: 1. Identify the design problems related to local, regional, national or global needs. *Knowledge*

BSD403-CO2: Apply appropriate techniques for designing solutions to the intended problem.
Comprehension

BSD403-CO3: Design the experiments as per the standards and specifications. *Application*

BSD403-CO4: Interpret the events and results for meaningful conclusions. *Application*

76. **Course Name:** Summer Internship

Course Code: BSM3002

BSM3002-CO1: 1. Identify the design problems related to local, regional, national or global needs. *Knowledge*

BSM3002-CO2: Apply appropriate techniques for designing solutions to the intended problem. *Comprehension*

BSM3002-CO3: Design the experiments as per the standards and specifications. *Application*

BSM3002-CO4: Interpret the events and results for meaningful conclusions. *Application*

77. **Course Name:** Drawing for Designer

Course Code: DES2082

DES2082-CO1: Demonstrate strong visualisation skills. *Knowledge*

DES2082-CO2: Analyze their own visual concepts and others. *Application*

DES2082-CO3: Design the visualised concept in their chosen area with the help of illustration.
Application

78. **Course Name:** Sketching and Painting

Course Code: DES1001

DES1001-CO1: identify different mediums and techniques of drawing *Knowledge*

DES1001-CO2: able to observe, visualize and visual experience through the basic elements of Drawing. *Comprehension*

DES1001-CO3: improve visual representation by using perspectives. *Comprehension*



DES1001-CO4: able to interact with the surroundings, materials and various physical qualities *Comprehension*



School of Computer Science and Engineering

1. Course Name: Data Communications and Computer Networks

Course Code: CSE2011

CSE2011-CO1: Explain the concepts of Computer Networks and Working Principles of Application Layer and Transport Layer *Comprehension*

CSE2011-CO2: Apply the Knowledge of IP Addressing and Routing Mechanism in Computer Networks. *Application*

CSE2011-CO3: Describe the functionalities of Data Link Layer *Comprehension*

CSE2011-CO4: Explain the Basic Concepts of Data communication. *Comprehension*

2. Course Name: R Programming For Data Science

Course Code: CSE3035

CSE3035-CO1: Apply basic R functions pertaining to fundamental data analysis *Application*

CSE3035-CO2: Interpret data using appropriate statistical methods *Application*

CSE3035-CO3: Demonstrate the decision trees concept with the given dataset *Application*

CSE3035-CO4: Demonstrate the Mining concepts for both Data and Text *Application*

3. Course Name: Predictive Analytics

Course Code: CSE3036

CSE3036-CO1: Define the nature of analytics and its applications *Knowledge*

CSE3036-CO2: Discuss the concepts of predictive analytics and data mining *Comprehension*

CSE3036-CO3: Compute the analytical tools in business scenarios to achieve competitive advantage *Application*

CSE3036-CO4: Relate the real-world insights in decision trees and time series analysis methods in dynamic business environment *Comprehension*

CSE3036-CO5: Outline the importance of big data in predictive analytics *Comprehension*

4. Course Name: Optimization for Data Science

Course Code: CSE3037

CSE3037-CO1: Apply data processing and data visualization techniques *Knowledge*

CSE3037-CO2: Perform descriptive and inferential statistical analysis *Comprehension*



CSE3037-CO3: Utilize appropriate distance metrics and optimization techniques *Application*

CSE3037-CO4: Implement supervised, unsupervised algorithms for classification and prediction *Application*

5. Course Name: Social Media Analytics

Course Code: CSE3039

CSE3039-CO1: Define the role of social media data and analytics in helping organizations achieve their goals *Knowledge*

CSE3039-CO2: Identify the key performance indicators to accurately measure the success of social media efforts *Comprehension*

CSE3039-CO3: Analyze social media data using native analytics (e.g., Facebook, Twitter) and social media measurement tools *Application*

CSE3039-CO4: Demonstrate meaningful insights with actionable and strategic recommendations based on thorough social media data analysis *Application*

6. Course Name: Automated Test Management

Course Code: CSE3043

CSE3043-CO1: Revise the topics on Java and HTML for application in automated Testing. *Knowledge*

CSE3043-CO2: Understand the basics of automated testing and the requirement for automated testing *Comprehension*

CSE3043-CO3: Learn to implement automated testing using tools like Selenium *Application*

CSE3043-CO4: Learn to execute simple testing problems using TestNG and JUnit testing *Application*

7. Course Name: Development Automation

Course Code: CSE3045

CSE3045-CO1: Understand the automated software delivery and deployment process *Knowledge*

CSE3045-CO2: Analyze the various automation scenarios *Comprehension*

CSE3045-CO3: Demonstrate the interaction with linux environment *Application*

CSE3045-CO4: Implement scripts *Application*

CSE3045-CO5: Implement makefiles to automate tasks *Application*

8. Course Name: System Provisioning and Configuration Management

Course Code: CSE3052

CSE3052-CO1: Understand provisioning on Cloud *Comprehension*



CSE3052-CO2: Learn automation, preventing errors, tracking of changes *Comprehension*

CSE3052-CO3: Understand configuration management *Comprehension*

CSE3052-CO4: Implement the Configuration and Management on Cloud Service Platform
Comprehension

9. **Course Name:** Big Data Analytics for IoT

Course Code: CSE3053

CSE3053-CO1: Describe IOT Data Analytics, lifecycle, IOT based geospatial analytics and machine learning application in IOT *Comprehension*

CSE3053-CO2: Examine concepts of cloud based IOT, Big data and IOT in various domains
Application

CSE3053-CO3: Apply IOT concepts in Geospatial analytics and Machine learning
Comprehension

CSE3053-CO4: Appraise techniques and strategies for data collection with reference to big data
Comprehension

10. **Course Name:** Wireless Communication in IoT

Course Code: CSE3055

CSE3055-CO1: To understand the fundamentals of wireless networks *Knowledge*

CSE3055-CO2: Analyze the standards of IoT which employed for wireless networks
Comprehension

CSE3055-CO3: Explain the use of various wireless technologies in IoT *Comprehension*

CSE3055-CO4: Design and develop various applications of IoT *Comprehension*

11. **Course Name:** Mobile Application for IoT

Course Code: CSE3066

CSE3066-CO1: Describe the fundamental concepts of Mobile Operating Systems *Knowledge*

CSE3066-CO2: Design and develop various mobile applications *Application*

CSE3066-CO3: Demonstrate uses of IoT devices for application *Application*

CSE3066-CO4: Illustrate various applications of IoT that integrates with Mobile OS *Application*

12. **Course Name:** Cryptography and Network Security

Course Code: CSE3078

CSE3078-CO1: Identifies the basic concept of Cryptography *Knowledge*

CSE3078-CO2: Apply the different types of Cryptographic Algorithms *Application*



CSE3078-Co3: Describe the Public key Cryptographic Techniques for various applications
Comprehension

CSE3078-CO4: Explain the network security concepts during their implementation of different applications *Comprehension*

13. **Course Name:** Big Data Security and Privacy

Course Code: CSE3034

CSE3034-CO1: Define cryptographic principles and mechanisms to manage access controls in Big Data system *Knowledge*

CSE3034-CO2: Explain security risks and challenges for Big Data system *Knowledge*

CSE3034-Co3: Recognize all security related issues in big data systems *Comprehension*

CSE3034-CO4: Apply Kerberos configuration for Hadoop ecosystem components *Application*

14. **Course Name:** Digital Image Processing

Course Code: CSE3081

CSE3081-CO1: Explain the fundamentals of digital image processing *Knowledge*

CSE3081-CO2: Perform image enhancement techniques in spatial and frequency domain
Comprehension

CSE3081-CO3: Illustrate the mathematical modeling of image degradation and restoration
Application

CSE3081-CO4: Apply the concept of image segmentation *Application*

15. **Course Name:** Object Oriented Analysis and Design

Course Code: CSE3082

CSE3082-CO1: Describe the basics of object-oriented system development *Knowledge*

CSE3082-CO2: Identify the various techniques for object-oriented analysis techniques
Comprehension

CSE3082-CO3: Apply the design axioms to create appropriate UML diagrams. *Application*

CSE3082-CO4: Apply the design process to develop implementation models. *Application*

16. **Course Name:** DE-VII-Parallel Computing

Course Code: CSE3079

CSE3079 -CO1: Study the scalability and clustering issues and the technology necessary for them *Knowledge*

CSE3079 -CO2: Understand the technologies enabling parallel computing *Comprehension*

CSE3079 -CO3: Practice the different types of interconnection networks *Application*



CSE3079 -CO4: Demonstrate the software support needed for shared memory programming
Application

17. Course Name: Intrusion Detection and Prevention System

Course Code: CSE3145

CSE3145 -CO1: Understand about the intruders *Comprehension*

CSE3145 -CO2: Define intrusion detection and prevention policies *Comprehension*

CSE3145-CO3: Apply various protocol analyzers and Network Intrusion Detection Systems as security tools to detect network attacks and troubleshoot network problems *Application*

CSE3145 -CO4: Explain the fundamental concepts of Network Protocol Analysis and demonstrate the skill to capture and analyze network packets *Comprehension*

18. Course Name: Operating System with linux internals

Course Code: CSE3120

CSE3120-CO1: Describe the fundamental concepts of operating Systems *Comprehension*

CSE3120-CO2: Demonstrate various CPU scheduling algorithms *Comprehension*

CSE3120-CO3: Apply synchronization tools to a given problem *Application*

CSE3120-CO4: Discuss various memory management techniques *Application*

19. Course Name: Pattern Recognition

Course Code: CSE3122

CSE3122 -CO1: identify areas where Pattern Recognition and Machine Learning can offer a solution *Knowledge*

CSE3122 -CO2: Describe the strength and limitations of some techniques used in computational Machine Learning for classification, regression and density estimation problems *Comprehension*

CSE3122 -CO3: Describe genetic algorithms, validation methods and sampling techniques *Comprehension*

CSE3122 -CO4: Describe and model data to solve problems in regression and classification *Comprehension*

CSE3122 -CO5: Implement learning algorithms for supervised tasks *Application*

20. Course Name: DE-1-Programming in C# and .NET

Course Code: CSE3091

CSE3091-CO1: Understand the fundamental concepts and benefits of .NET framework and its components *Comprehension*

CSE3091-CO2: Illustrate the Object-Oriented paradigm using C# Language *Knowledge*



CSE3091-CO3: Develop different types of applications by applying the C# programming concepts and database connectivity. *Application*

CSE3091-CO4: Demonstrate the use of event handling mechanism *Application*

21. Course Name: Search Engine Optimization

Course Code: CSE3123

CSE3123 -CO1: Outline the basic concepts of SEO *Knowledge*

CSE3123 -CO2: Discuss the content necessary for On-page & Off-Page SEO *Comprehension*

CSE3123 -CO3: Illustrate Technical SEO *Application*

CSE3123 -CO4: Analyse the Report of SEO to measure the performance *Analysis*

22. Course Name: Web Security

Course Code: CSE3097

CSE3097 -CO1: Define the fundamentals of web applications and validation *Knowledge*

CSE3097 -CO2: Recognize the significance of password and authentication in web applications *Comprehension*

CSE3097 -CO3: Explain the importance of session management in web *Comprehension*

CSE3097 -CO4: Apply web attack techniques to find vulnerabilities in web applications *Application*

23. Course Name: Advanced Java Programming

Course Code: CSE3146

CSE3146-CO1: Explain the benefits of Design-Pattern & SOLID principle in java based applications *Comprehension*

CSE3146-CO2: Understand Concurrent Programming using Java Multi-Threading *Comprehension*

CSE3146-CO3: Apply Communication mechanisms of Java with DBMS *Application*

CSE3146-CO4: Implement Web MVC application using Servlet and JSP Technology *Application*

CSE3146-CO5: Test JPA Implementation using Hibernate *Application*

24. Course Name: DE-V-Front End Full Stack Development

Course Code: CSE3150

CSE3150-CO1: Describe the fundamentals of DevOps and Front-end full stack development. *Comprehension*

CSE3150-CO2: Illustrate development of a responsive web. *Application*

CSE3150-CO3: Apply concepts of Angular.js to develop a web front-end. *Application*



CSE3150-CO4: Apply concepts of Angular.js to develop a web front-end. *Application*

25. Course Name: DE-VI-JAVA Full Stack Development

Course Code: CSE3151

CSE3151-CO1: Practice the use of Java for full stack development. *Application*

CSE3151-CO2: Demonstrate web applications using Java EE. *Application*

CSE3151-CO3: Solve simple applications using Java Persistence and Hibernate. *Application*

CSE3151-CO4: Apply concepts of Spring to develop a Full Stack application. *Application*

CSE3151-CO5: Employ automation tools like Maven, Selenium for Full Stack development. *Application*

26. Course Name: DE-VI-Dot Net Full Stack Development

Course Code: CSE3152

CSE3152-CO1: Practice the use of C# for developing a small application *Application*

CSE3152-CO2: Demonstrate web applications using Entity Framework *Application*

CSE3152-CO3: Solve simple web applications that use SQL and ASP.NET *Application*

CSE3152-CO4: Apply concepts of ASP.NET to develop a Full Stack application *Application*

27. Course Name: Programming in C++

Course Code: CSE2036

CSE2036-CO1: Illustrate the need and features of OOP and idealize how C++ differs from C. *Knowledge*

CSE2036-CO2: Infer knowledge on various types of overloading, streams. *Application*

CSE2036-CO3: Implement inheritance and polymorphism for building real-time applications. *Application*

CSE2036-CO4: Apply the concepts of pointers and effective memory management *Application*

CSE2036-CO5: Implement the concepts of files *Application*

28. Course Name: Cyber Threats for IoT and Cloud

Course Code: CSE2040

CSE2040-CO1: Describe the different types of cyber threats for IOT and cloud *Knowledge*

CSE2040-CO2: Develop a deeper understanding and familiarity with various types of cyber-attacks, cybercrimes, vulnerabilities and remedies thereto. *Comprehension*

CSE2040-CO3: Analyze different types of cyber threats using tools *Application*

CSE2040-CO4: Plan, implement, and monitor cyber security mechanisms to ensure the protection of information technology assets. *Application*



29. Course Name: Robotic Vision

Course Code: CSE2048

CSE2048-CO1: Discuss the overview of robotics. *Comprehension*

CSE2048-CO2: Illustrate the various computer vision that are used in robot system. *Application*

CSE2048-CO3: Apply the basic concepts of Vision to Design a robot system. *Application*

CSE2048-CO4: Use an appropriate algorithm to solve basic vision-based problems. *Application*

30. Course Name: Information Retrieval

Course Code: CSE2051

CSE2051-CO1: Define basic concepts of information Retrieval *Knowledge*

CSE2051-CO2: Evaluate the effectiveness and efficiency of different information retrieval methods *Application*

CSE2051-CO3: Explain different indexing methodology requirements and the concept of web retrieval and crawling *Comprehension*

CSE2051-CO4: Classify different recommender system and its aspect *Comprehension*

31. Course Name: Distributed Systems

Course Code: CSE2052

CSE2052-CO1: Describe the functional characteristics and challenges in distributed system *Knowledge*

CSE2052-CO2: Summarize the mechanism of inter process, indirect communication techniques. *Comprehension*

CSE2052-CO3: Discuss the features of peer to peer services and file systems. *Comprehension*

CSE2052-CO4: Apply synchronization techniques. *Application*

CSE2052-CO5: Explicate the different process and resource management approaches. *Comprehension*

32. Course Name: Enterprise Network Design

Course Code: CSE2053

CSE2053-CO1: Understand the customer requirements, Structure and Modularize the Network. *Knowledge*

CSE2053-CO2: Compare Open flow controllers and switches with other enterprise networks. *Comprehension*

CSE2053-CO3: Design Basic Campus and Data Center Network, Remote Connectivity, IP Addressing and Select suitable Routing Protocols for the Network. *Application*



CSE2053-CO4: Apply a Methodology to Network Design *Application*

33. Course Name: Storage Area Networks

Course Code: CSE2054

CSE2054-CO1: Identify key challenges in managing information and analyze different storage networking technologies *Knowledge*

CSE2054-CO2: Explain physical and logical components of a storage infrastructure of RAID, and intelligent storage systems and networking technologies such as FC SAN *Comprehension*

CSE2054-CO3: Describe storage networking technologies such as IP SAN, NAS. *Comprehension*

CSE2054-CO4: Articulate business continuity solutions – backup and archive for managing fixed content. *Application*

34. Course Name: Web 2.0

Course Code: CSE2056

CSE2056-CO1: Demonstrate database-driven web application with the server-side script using PHP *Application*

CSE2056-CO2: Employ JavaScript frameworks to develop rich internet applications *Application*

CSE2056-CO3: Demonstrate web application using Flex architecture deployed to flash player *Application*

CSE2056-CO4: Describe the concept of Ajax Patterns and implement ajax patterns in real time. *Application*

35. Course Name: Firewall and Network Security

Course Code: CSE2058

CSE2058-CO1: Identify elements of firewall design, types of security threats and responses to security attacks *Knowledge*

CSE2058-CO2: Examine security incident postmortem reporting and ongoing network security activities *Comprehension*

CSE2058-CO3: Construct code for authentication algorithms. [application level] *Application*

CSE2058-CO4: Develop a signature scheme using Digital signature standard.[application level] *Application*

36. Course Name: Mobile Networking

Course Code: CSE2059



CSE2059-CO1: Discuss various protocols in Ad-hoc and Sensor Networks *Comprehension*

CSE2059-CO2: Express the Wireless Broadband Networks Technology Overview, Platforms and Standards *Comprehension*

CSE2059-CO3: Apply the management, testing and troubleshooting in Wireless Broadband Networks working principles of wireless LAN, its standards *Application*

CSE2059-CO4: Demonstrate various wireless networks using latest tools *Application*

37. Course Name: Information Security and Management

Course Code: CSE2060

CSE2060-CO1: Describe the basic concept of information security *Knowledge*

CSE2060-CO2: Explain the concepts of Logical Elements of Networks and Data Leakage *Comprehension*

CSE2060-CO3: Demonstrate the aspects of risk management. *Application*

38. Course Name: Computer Graphics

Course Code: CSE2066

CSE2066-CO1: Illustrate algorithms for drawing basic primitives like Point, Line and Polygon. *Application*

CSE2066-CO2: Illustrate algorithms for performing 2D Geometric Transformations, viewing and clipping. *Application*

CSE2066-CO3: Illustrate algorithms for performing 3D Geometric Transformations, clipping. *Comprehension*

CSE2066-CO4: Describe planes, Bezier curves and Bezier surfaces *Knowledge*

39. Course Name: Problem Solving using JAVA

Course Code: CSE1001

CSE1001-CO1: Describe the basic programming concepts *Knowledge*

CSE1001-CO2: Apply the concept of classes, objects and methods to solve problems *Application*

CSE1001-CO3: Apply the concept of arrays and strings *Application*

CSE1001-CO4: Implement inheritance and polymorphism building secure applications. *Application*

CSE1001-CO5: Apply the concepts of interface and error handling mechanism *Application*

40. Course Name: Design and Analysis of Algorithms

Course Code: CSE2007



CSE2007-CO1: Classify the types of asymptotic notations *Comprehension*

CSE2007-CO2: Discuss the Brute Force Technique used for solving a problem *Comprehension*

CSE2007-CO3: Explain divide and conquer technique for searching and sorting problems
Application

CSE2007-CO4: Discuss the Dynamic Programming Algorithm used for solving a problem
Comprehension

CSE2007-CO5: Discuss the Back tracking technique and limitations of Algorithms
Comprehension

41. Course Name: Computer Organization and Architecture

Course Code: CSE2009

CSE2009-CO1: Discuss the basic components of a computer, their interconnections, and instruction set architecture *Comprehension*

CSE2009-CO2: Apply appropriate techniques to carry out selected arithmetic operations
Application

CSE2009-CO3: Explain the organization of memory and processor sub-system *Comprehension*

42. Course Name: Operating Systems

Course Code: CSE2010

CSE2010-CO1: Describe the fundamental concepts of operating Systems *Knowledge*

CSE2010-CO2: Demonstrate various CPU scheduling algorithms *Application*

CSE2010-CO3: Apply synchronization tools to a given problem *Application*

CSE2010-CO4: Discuss various memory management techniques *Comprehension*

43. Course Name: Cloud Computing

Course Code: CSE2013

CSE2013-CO1: •Describe fundamentals of cloud computing, virtualization and cloud computing services. *Knowledge*

CSE2013-CO2: Classify appropriate Virtualization techniques to virtualize infrastructures
Comprehension

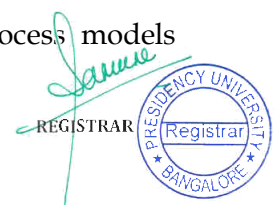
CSE2013-CO3: Explain Cloud mechanisms to optimize the QoS parameters *Comprehension*

CSE2013-CO4: Use cloud platforms to develop applications *Application*

44. Course Name: Software Engineering

Course Code: CSE2014

CSE2014-CO1: Describe the software engineering principles, ethics and process models
Knowledge



CSE2014-CO2: Identify the requirements and appropriate design models for a given application. *Comprehension*

CSE2014-CO3: Discuss the various types of testing methods and Quality Assurance. *Comprehension*

CSE2014-CO4: Apply project planning, scheduling, evaluation and risk management principles for a given project. *Application*

45. Course Name: Data Analysis and Visualization

Course Code: CSE2015

CSE2015-CO1: Interpret various types of data and the principles of data visualization. *Comprehension*

CSE2015-CO2: Apply visualization techniques to a problem and its associated dataset *Application*

CSE2015-CO3: Create interactive visualization for better insight using various visualization tools. *Application*

CSE2015-CO4: Manipulate streaming data using various techniques *Application*

46. Course Name: Business Continuity and Risk Analysis

Course Code: CSE2025

CSE2025-CO1: Describe the principle of risk management *Knowledge*

CSE2025-CO2: Know what incident response alternatives are and be ready to talk about them. *Knowledge*

CSE2025 - CO3: Illustrate the contingency strategies, including data backup and recovery and alternate site selection for business resumption planning. *Comprehension*

CSE2025 - CO4: Design an incident response plan for sustained organizational operations *Application*

47. Course Name: Fundamental of Data Analytics

Course Code: CSE2027

CSE2027-CO1: Explain different types of data and variables *Comprehension*

CSE2027-CO2: Interpret data using appropriate statistical methods *Application*

CSE2027-CO3: Demonstrate the collection, processing and analysis of data for any given application and Illustrate various charts using visualization methods *Application*

CSE2027-CO4: Apply the Data Analysis techniques by MAT Lab *Application*

48. Course Name: Fundamentals of Natural Language Processing

Course Code: CSE3014



CSE 3014 -CO1: Understand the fundamental concepts of Natural Language Processing. *Knowledge*

CSE 3014 -CO2: Use word embedding's for solving an NLP Application. *Comprehension*

CSE 3014 -CO3: Read corpora and train models for different NLP tasks. *Application*

CSE 3014 -CO4: Understand sequence to sequence modelling as used in machine translation. *Application*

49. Course Name: Machine Learning Techniques

Course Code: CSE3008

CSE3008 -CO1: Apply advanced supervised machine learning methods for predictive modeling *Application*

CSE3008 -CO2: Produce machine learning models with better predictive performance using meta learning algorithms *Application*

CSE3008 -CO3: Create predictive models using Perceptron learning algorithms *Application*

CSE3008 -CO4: Employ advanced unsupervised learning algorithms for clustering, competitive learning and outlier detection *Application*

CSE3008 -CO5: Implement machine learning based intelligent models using Python libraries. *Application*

50. Course Name: Deep Learning Techniques

Course Code: CSE3010

CSE3010-CO1: Comprehend basic concepts of Deep Learning Frameworks *Comprehension*

CSE3010-CO2: Apply various supervised deep learning techniques *Application*

CSE3010-CO3: Illustrate various unsupervised deep learning techniques. *Application*

51. Course Name: Neural Networks and Fuzzy Logic

Course Code: CSE3016

CSE3016-CO1: Define the concept of Neural Networks. *Knowledge*

CSE3016-CO2: Define the ideas behind the most common learning algorithms in Neural networks. *Knowledge*

CSE3016-CO3: Discuss the concepts of Fuzzy Sets and Relations. *Comprehension*

CSE3016-CO4: Demonstrate the Fuzzy logic concepts and their applications. *Application*

52. Course Name: Blockchain Security and Performance

Course Code: CSE3028



CSE3028-CO1: Comprehend security and performance perspective of blockchain technology.
Knowledge

CSE3028-CO2: Apply cryptographic techniques to enhance security in blockchain based systems. *Application*

CSE3028-CO3: Implement secure transaction models *Application*

CSE3028-CO4: Apply security techniques to blockchain systems that provide solutions to some real world problems *Application*

53. **Course Name:** Introduction to Artificial Intelligence and Machine Learning

Course Code: CSE3001

CSE3001-CO1: To develop a basic understanding of the building blocks of AI as presented in terms of intelligent agents. *Comprehension*

CSE3001-CO2: Produce machine learning models for predictive analytics. *Application*

CSE3001-CO3: Apply ensemble learning, optimization and hyper parameter tuning techniques for machine learning algorithms. *Application*

CSE3001-CO4: Demonstrate different types of clustering techniques. *Application*

CSE3001-CO5: Employ time series forecasting techniques/models for real world problems. *Application*

54. **Course Name:** Web Technology

Course Code: CSE2067

CSE2067-CO1: Describe the concept of web application terminologies and internet tools
Comprehension

CSE2067-CO2: Employ HTML tags and CSS features to develop a web site *Application*

CSE2067-CO3: Employ java-script and Ajax concepts to develop dynamic web site *Application*

CSE2067-CO4: Demonstrate database driven web application with server side script using PHP *Application*

55. **Course Name:** Big Data Technologies

Course Code: CSE3002

CSE 3002-CO1: Apply Map-Reduce programming on the given datasets to extract required insights. *Application*

CSE 3002-CO2: Employ appropriate Hadoop Ecosystem tools such as scoop, Hbase, Hive, to perform data analytics for a given problem *Application*

CSE 3002-CO3: Use Spark tool to analyze the given dataset for a given problem *Application*

56. **Course Name:** Smart Contract and Solidity

Course Code: CSE3020



CSE3020-CO1: Understand the fundamentals of computational Element of the Blockchain Technology *Knowledge*

CSE3020-CO2: Implement user-defined operations of arbitrary complexity that are not possible through plain cryptocurrency protocols *Application*

CSE3020-CO3: Exhibit best practices for designing solutions with smart contracts using Solidity and Remix IDE. *Comprehension*

57. **Course Name:** Distributed Ledger Technology

Course Code: CSE3023

CSE3023-CO1: Understand and explore the working of distributed ledger technology *Knowledge*

CSE3023-CO2: Understand the working of Smart Contracts *Knowledge*

CSE3023-CO3: Apply the learning of solidity and de-centralized apps on Ethereum *Application*

58. **Course Name:** Web Intelligence and Analytics

Course Code: CSE3031

CSE3031-CO1: A grounded understanding of web intelligence and business analytics terminology related to the above *Knowledge*

CSE3031-CO2: How to deploy web intelligence to improve the outcomes of your marketing or business plan. *Comprehension*

CSE3031-CO3: How Analysts impact the bottom line (their role) within various businesses and lines of business *Knowledge*

CSE3031-CO4: Growth potentials for Web Analysts and Big Data professionals *Application*

59. **Course Name:** Streaming Data Analytics

Course Code: CSE3032

CSE3032-CO1: Recognize the characteristics of data streams that make it useful to solve real-world problems. *Knowledge*

CSE3032-CO2: Apply appropriate algorithms for analyzing the data streams for a variety of problems. *Application*

CSE3032-CO3: Implement different algorithms for analyzing the data streams. *Application*

60. **Course Name:** Essentials of Programming in Python

Course Code: CSE5004

CSE5004-CO1: Illustrate the Python programming construct *Comprehension*

CSE5004-CO2: Explore data using NumPy and Pandas *Application*

CSE5004-CO3: Demonstrate visualization of data using Matplotlib *Comprehension*



61. Course Name: Artificial Intelligence

Course Code: CSE5005

CSE5005-CO1: Identify problems where artificial intelligence techniques are applicable.

Comprehension

CSE5005-CO2: Apply selected basic AI techniques; judge applicability of more advanced techniques. *Comprehension*

CSE5005-CO3: Participate in the design of systems that act intelligently and learn from experience *Application*

62. Course Name: Knowledge Engineering and Expert Systems

Course Code: CSE5006

CSE5006-CO1: Students will be able to explain and describe the concepts central to the creation of knowledge bases and expert systems. *Comprehension*

CSE5006-CO2: Students will be knowledgeable about the tools and the processes used for the creation of an expert system. *Comprehension*

CSE5006-CO3: Student will know methods used to evaluate the performance of an expert system. *Comprehension*

63. Course Name: Machine Learning Algorithms

Course Code: CSE5007

CSE5007-CO1: Identify the characteristics of datasets and compare the trivial data for various applications.(Understand). *Application*

CSE5007-CO2: Understand and apply scaling up machine learning techniques. (Apply). *Comprehension*

CSE5007-CO3: To design and implement various machine learning algorithms in a range of real-world applications.(Apply). *Comprehension*

64. Course Name: Programming in Data Science

Course Code: CSE5008

CSE5008-CO1: Students will develop relevant programming abilities. *Comprehension*

CSE5008-CO2: Students will demonstrate proficiency with statistical analysis of data *Application*

CSE5008-CO3: Students will develop the ability to build and assess data-based models. *Comprehension*

65. Course Name: Data Analytics and Visualization

Course Code: CSE5009



- CSE5009-CO1: Present an overview data science and applications *Comprehension*
CSE5009-CO2: Plan the methods of data collection *Comprehension*
CSE5009-CO3: Apply statistical methods to develop and evaluate the models *Application*

66. Course Name: Discipline Elective-I Soft Computing Techniques

Course Code: CSE5013

- CSE5013-CO1: Define the concept and applications of Soft Computing *Comprehension*
CSE5013-CO2: Discuss Fuzzy logic concepts and its applications *Comprehension*
CSE5013-CO3: Demonstrate Artificial Neural Networks concepts and its applications *Comprehension*

67. Course Name: Discipline Elective-I Essentials of Machine Learning

Course Code: CSE5016

- CSE5016-CO1: Understand the basic concepts of Probability and Statistics. *Application*
CSE5016-CO2: Understand the basic concepts of Linear Algebra. *Comprehension*
CSE5016-CO3: Pursue courses on Machine learning/Deep learning in future. *Comprehension*

68. Course Name: No SQL Databases

Course Code: CSE5017

- CSE5017-CO1: Define the NoSQL databases *Comprehension*
CSE5017-CO2: Apply the document data model for CRUD operations *Application*
CSE5017-CO3: To Perform the Aggregation in MongoDB/Cassandra DB *Comprehension*

69. Course Name: Quantum Computing

Course Code: CSE3080

- CSE3080-CO1: Analyze the behaviour of basic quantum algorithms *Comprehension*
CSE3080-CO2: Implement simple quantum algorithms and information channels in the quantum circuit model *Comprehension*
CSE3080-CO3: Simulate a simple quantum error-correcting code *Application*

70. Course Name: Front End Full Stack Development

Course Code: CSE390

- CSE390-CO1: Structure and implement HTML/CSS *Comprehension*
CSE390-CO2: Apply intermediate and advanced web development practices *Comprehension*



CSE390-CO3: Implement basic JavaScript. *Comprehension*

71. Course Name: JAVA Full Stack Development

Course Code: CSE391

CSE391-CO1: 1. Structure and implement HTML/CSS. *Application*

CSE391-CO2: 1. Apply intermediate and advanced web development practices. *Comprehension*

CSE391-CO3: 1. Implement basic JavaScript. *Comprehension*

72. Course Name: Dot Net Full Stack Development

Course Code: CSE392

CSE392-CO1: Develop a fully functioning website and deploy on a web server *Comprehension*

CSE392-CO2: Gain Knowledge about the front end and back end Tools *Application*

CSE392-CO3: Find and use code packages based on their documentation to produce working results in a project. *Comprehension*

73. Course Name: Theory of Computation

Course Code: CSE2018

CSE2018-CO1: Describe various components of Automata *Knowledge*

CSE2018-CO2: Illustrate Finite Automata for the given Language *Application*

CSE2018-CO3: Distinguish between Regular grammar and Context free grammar *Comprehension*

CSE2018-CO4: Construct Push down Automata *Application*

CSE2018-CO5: Construct Turing machine for a Language *Application*

74. Course Name: Data Mining

Course Code: CSE2021

CSE2021-CO1: Apply the various pre-processing techniques needed for a data mining task. *Knowledge*

CSE2021-CO2: Understand the functionality of the various data mining algorithms. *Comprehension*

CSE2021-CO3: Appreciate the strengths and limitations of various data mining models *Application*

CSE2021-CO4: Understand the advances in data mining for real life applications *Application*

CSE2021-CO5: Describe the advances in data mining for the selected real time application *Knowledge*



75. Course Name: Professional Practice-II

Course Code: PIP102

PIP 102-CO1: Identify the engineering problems related to local, regional, national or global needs *Knowledge*

PIP 102-CO2: Apply appropriate techniques or modern tools for solving the intended problem *Application*

PIP 102-CO3: Design the experiments as per the standards and specifications. *Synthesis*

PIP 102-CO4: Interpret the events and results for meaningful conclusions. *Synthesis*

PIP 102-CO5: Appraise project findings and communicate effectively through scholarly publications. *Evaluation*



School of Information Science

1. Course Name: Mobile and Web Applications Development

Course Code: BCA214

BCA214-CO1: Discuss the fundamentals of mobile application development and its architecture. *Comprehension*

BCA214-CO2: Illustrate mobile applications with appropriate android view. *Application*

BCA214-CO3: Demonstrate the use of services, broadcast receiver, Notifications and content provider. *Application*

BCA214-CO4: Use data persistence techniques for CRUD operations, multimedia and Internet services for mobile applications. *Application*

2. Course Name: Machine Learning

Course Code: BCA215

BCA215-CO1: Understand the concept of Machine Learning. *Knowledge*

BCA215-CO2: Apply optimization and hyper parameter tuning techniques for Machine Learning algorithms. *Application*

BCA215-CO3: Demonstrate different types of clustering techniques *Application*

BCA215-CO4: Employ time series forecasting techniques/models for real world problems *Application*

3. Course Name: Data Analytics and Business Intelligence

Course Code: BCA216

BCA216-CO1: Describe the fundamentals of Data Analysis *Knowledge*

BCA216-CO2: Apply data visualization techniques to analyze datasets. *Application*

BCA216-CO3: Describe the fundamentals of Business Intelligence Technologies. *Comprehension*

BCA216-CO4: Apply ETL tools to integrate data in a warehouse. *Application*

4. Course Name: Digital Compositing

Course Code: BCA262

BCA262-CO1: Illustrate the basic concepts of digital compositing. *Knowledge*

BCA262-CO2: Build the compositing process, including color correction, keying, rotoscoping, and motion graphics *Application*

BCA262-CO3: Develop Relate knowledge of the principles of visual effects, such as depth of field, motion blur, and light and shadow, and the ability to apply them to create believable and engaging composites. *Application*



BCA262-CO4: Compose with the workflow and pipeline of a VFX studio, and the ability to work within a team environment *Knowledge*

5. Course Name: XR Development

Course Code: CSA3090

CSA 3090 -CO1: Identify the principles of XR development *Comprehension*

CSA 3090 -CO2: Demonstrate the XR experiences for different devices and platforms *Application*

CSA 3090 -CO3: Understand the importance of Visual Perception *Comprehension*

CSA 3090 -CO4: Apply the industry standards and trends in XR development *Application*

6. Course Name: Internet of Things

Course Code: BCA318

BCA318-CO1: Describe building blocks of Internet of Things and characteristics. *Knowledge*

BCA318-CO2: Describe IoT Protocols. *Comprehension*

BCA318-CO3: Identify and demonstrate use of IoT devices for simple application. *Application*

7. Course Name: Software Testing

Course Code: BCA321

BCA321-CO1: Describe the fundamentals of software testing for Quality assurance *Comprehension*

BCA321-CO2: Compose/Write/Develop Test cases to test Applications/Softwares *Application*

BCA321-CO3: Compose/Write/Develop Bug reports found while Testing Applications/Softwares *Application*

8. Course Name: Web Design and Development

Course Code: CSA1002

CSA1002-CO1: Describe the semantics and syntax of HTML and CSS. *Comprehension*

CSA1002-CO2: Demonstrate various client side scripting and web pages using HTML, CSS and Java script. *Comprehension*

CSA1002-CO3: Discuss the PHP language and use them while applying the principles of object oriented development. *Application*

9. Course Name: Programming in Python

Course Code: CSA1004



CSA1004-CO1: Demonstrate problem solving through understanding the basics of python
Application

CSA1004-CO2: Manipulate functions and data structures. *Application*

CSA1004-CO3: Apply Tuple, Dictionaries, File and Exception Handling concepts for real time problems *Application*

CSA1004-CO4: Practice object-oriented programming *Application*

10. **Course Name:** Introduction to DevOps

Course Code: CSA1007

CSA1007-CO1: Describe the fundamentals of DevOps methodology *Knowledge*

CSA1007-CO2: Operate Git tool for better project management *Application*

CSA1007-CO3: Demonstrate projects using DevOps tools *Application*

11. **Course Name:** Datastructures and Algorithms

Course Code: CSA2001

CSA2001-CO1: Apply an appropriate linear data structure for a given scenarios *Application*

CSA2001-CO2: Demonstrate the appropriate non-linear data structure for a given scenarios
Application

CSA2001-CO3: Explain the performance analysis of given searching and sorting algorithms
Comprehension

12. **Course Name:** Computer Organization

Course Code: CSA2002

CSA2002-CO1: Describe the basic components of a computer. *Knowledge*

CSA2002-CO2: Explain machine instructions, input/output units. *Comprehension*

CSA2002-CO3: Discuss the basic concepts of memory system and processing unit design.
Comprehension

CSA2002-CO4: Illustrate gate level techniques for arithmetic operations. *Application*

13. **Course Name:** Computer Networks

Course Code: CSA2004

CSA2004-CO1: Describe the basic concepts of computer networks and reference models.
Knowledge

CSA2004-CO2: Describe the physical and data link layer functionalities. *Comprehension*



CSA2004-CO3: Apply the knowledge of IP addressing and routing mechanism to connect to a computer networks. *Application*

CSA2004-CO4: Explain the functionalities of transport layer and application layer. *Comprehension*

14. Course Name: Fundamentals of Software Engineering

Course Code: CSA2006

CSA2006-CO1: Understand the software engineering principles, ethics and process models. *Knowledge*

CSA2006-CO2: Identify the requirements and appropriate design models for a given application *Comprehension*

CSA2006-CO3: Discuss the various types of testing methods and Quality Assurance. *Comprehension*

CSA2006-CO4: Apply project planning, scheduling, evaluation and risk management principles for a given project. *Application*

15. Course Name: Data Mining

Course Code: CSA2007

CSA2007-CO1: Explain the basic concepts and issues involved in Data Mining. *Knowledge*

CSA2007-CO2: Discuss different preprocessing techniques on Data Analysis. *Comprehension*

CSA2007-CO3: Discover frequent item sets by using Association rule algorithms *Application*

CSA2007-CO4: Apply different Classification and Clustering techniques used in data mining *Application*

16. Course Name: Essentials of Cloud Computing

Course Code: CSA2008

CSA2008-CO1: Demonstrate an in-depth understand of the design principles of grid and cloud computing. *Comprehension*

CSA2008-CO2: Design and demonstrate distributed cloud computing applications. *Application*

CSA2008-CO3: Understand cloud based data storage, cloud based database solutions and research trends in cloud computing. *Comprehension*

CSA2008-CO4: Analyze cloud security issues and applications of Fog computing. *Comprehension*

17. Course Name: Web 2.0

Course Code: CSA2009



CSA2009-CO1: Demonstrate database-driven web application with the server-side script using PHP *Application*

CSA2009-CO2: Employ JavaScript frameworks to develop rich internet applications *Application*

CSA2009-CO3: Demonstrate web application using Flex architecture deployed to flash player *Application*

CSA2009-CO4: Describe the concept of web application terminologies and internet tools for developing the social web *Application*

18. **Course Name:** Stop Motion Animation

Course Code: CSA2011

CSA2011-CO1: Understanding the basic of stop motion animation *Knowledge*

CSA2011-CO2: Apply pre-production techniques and design methodology, including storyboarding and animation creation *Application*

CSA2011-CO3: Demonstrate creative thinking when combining fundamental principles of visual and narrative design with principles of Animation. *Application*

CSA2011-CO4: Apply stop motion principles and animation techniques to create a stop motion project using various production techniques *Application*

19. **Course Name:** 2D Animation

Course Code: CSA2012

CSA2012-CO1: Illustrate the basic concepts of Animation. *Knowledge*

CSA2012-CO2: Employ character design and motion through key-frames, holds *Application*

CSA2012-CO3: Relate knowledge of various animation types and techniques. *Application*

CSA2012-CO4: Compose the executed animation and export *Knowledge*

20. **Course Name:** Programming using C# for Unity

Course Code: CSA2014

CSA2014-CO1: Understanding the concepts of C# Language and Scripts *Knowledge*

CSA2014-CO2: Developing the basic programs –Rotation and scaling in the Unity. *Application*

CSA2014-CO3: Scripting the RigidBody components, Unity colliders in the Unity *Application*

CSA2014-CO4: Demonstrate the scenes with Unity and experiment with various user interface (UI) techniques that are used in Game development *Application*

21. **Course Name:** Augmented Reality Development

Course Code: CSA2016

CSA2016-CO1: Describe the concepts of augmented reality development. *Knowledge*



CSA2016-CO2: Illustrate Augmented Reality application using AR concepts. *Application*

CSA2016-CO3: Develop an AR Applications using Anchors. *Application*

CSA2016-CO4: Demonstrate the AR applications. *Comprehension*

22. Course Name: Data Modeling and vizualization

Course Code: CSA2018

CSA2018-CO1: Illustrate the business problem into a procedural flow. *Application*

CSA2018-CO2: Apply the EDA to get familiarized with the Data by extracting useful insights. *Application*

CSA2018-CO3: Identify the features that contribute the most to the prediction variable *Knowledge*

CSA2018-CO4: Generalize data by visualization it so that patterns, trends and correlations can be identified. *Comprehension*

23. Course Name: Data Warehousing and Data mining

Course Code: CSA2021

CSA2021-CO1: Describe data warehousing architecture and considerations to build data warehouse *Knowledge*

CSA2021-CO2: Discuss different multidimensional data models for data warehouse *Comprehension*

CSA2021-CO3: Apply various classification and clustering methods for mining information from data *Application*

CSA2021-CO4: Apply different techniques to find outliers in data *Application*

24. Course Name: 2D Game Design and Development

Course Code: CSA3018

CSA3018-CO1: Recognize Game Design Process and its Importance. *Comprehension*

CSA3018-CO2: Identify the UI of Unity Game Engine and its Work Flow. *Comprehension*

CSA3018-CO3: Illustrate Object Behavioral scripts using C# and the Unity API *Application*

CSA3018-CO4: Demonstrate 2D game using Unity Game Engine. *Application*

25. Course Name: Artificial Intelligence for Game Development

Course Code: CSA302

CSA302-CO1: Explain basic artificial intelligence concepts used for developing computer games *Knowledge*

CSA302-CO2: Implement different path-finding algorithms such as A*, Dijkstra's, etc. *Application*



CSA302-CO3: Solve common board games and implementing their solutions using either Python / Java / C# *Application*

CSA302-CO4: Apply tactical and strategic AI for playing computer games. *Application*

26. Course Name: Game Architecture

Course Code: CSA3037

CSA3037-CO1: Produce game design documents to effectively communicate game ideas and designs. *Knowledge*

CSA3037-CO2: Understand the software development process and work effectively in a game development team. *Comprehension*

CSA3037-CO3: Discuss concepts of game architecture and its application. *Application*

27. Course Name: 3D & VR Workflows and Theories

Course Code: CSA3053

CSA3053-CO1: Understand the processes involved in the creation of 3D content for animation, games, entertainment, and design *Knowledge*

CSA3053-CO2: Explore the production cycle of animation. *Comprehension*

CSA3053-CO3: Develop an understanding of the diverse methods available for the decision-making processes involved at various stages of project development. *Application*

CSA3053-CO4: Understanding the opportunities and tracks in the field of 3D animation. *Knowledge*

28. Course Name: DE: Intelligent Signal Processing

Course Code: CSA3056

CSA3056-CO1: Understand basic concepts of signal processing and how to apply these concepts for Compression and Networking. *Knowledge*

CSA3056-CO2: Employ Model Based Signal Processing for audio, image and video processing *Application*

CSA3056-CO3: Implement different signal processing techniques for audio and video compression. *Application*

CSA3056-CO4: Implement simple movement and face detection systems that work with live camera input. *Application*

29. Course Name: Rendering Techniques

Course Code: CSA3069

CSA3069-CO1: Recognize the concepts and techniques used in 3D graphics, including transformations, texturing and shading *Knowledge*

CSA3069-CO2: Classify the various shading and texturing methods. *Comprehension*



CSA3069-CO3: Summarize application of light and shadows in digital games. *Comprehension*

CSA3069-CO4: Employ advanced rendering techniques. *Application*

30. Course Name: Time Series Analysis

Course Code: CSA3070

CSA3070-CO1: Select appropriate model, to fit parameter values and make concise decisions based on forecasts obtained *Knowledge*

CSA3070-CO2: Demonstrate an understanding of the principles behind modern forecasting techniques *Application*

CSA3070-CO3: Apply concepts to real time series data using packages *Application*



School of Law

1. Course Name: Moot Court and Internship

Course Code: LAW994

LAW994-CO1: Understand a legal problem and identify the issues *Application*

LAW994-CO2: Comprehend the issues involved in a case *Application*

LAW994-CO3: Learn the ethics of communication in a court *Application*

LAW994-CO4: Understand the basics of Legal Research *Comprehension*

LAW994-CO5: Build legal arguments backed by settled legal norms *Analysis*

LAW994-CO6: Learn to present a case before Hon'ble Court *Application*

2. Course Name: Alternative Dispute Resolution

Course Code: LAW993

LAW993-CO1: Understand various dispute resolution methods that are "alternative" to traditional methods on both a practical and a theoretical level. *Knowledge*

LAW993-CO2: Interpret specific issues and concerns within ADR and be aware of the impact of these issues on the process, the client, the practitioner, and the appropriateness of ADR. *Comprehension*

LAW993-CO3: Demonstrate the possible importance of alternative dispute resolution within the Indian justice system. *Application*

LAW993-CO4: Apply skills, procedures, techniques needed to engage in the various forms of alternative dispute resolution. *Application*

LAW993-CO5: Analyse the Mediation process. *Analysis*

LAW993-CO6: Understand the International Perspective of ADR *Comprehension*

3. Course Name: Professional Ethics & Professional Accounting System

Course Code: LAW202

LAW202-CO1: Describe the development of legal profession and role Professional body regulating the legal education and developing the professionalism *Knowledge*

LAW202-CO2: Discuss the rules and procedure relating to Advocacy, Bar Bench relationship, Ethics, standards of legal profession among budding lawyers and professional ethics *Analysis*

LAW202-CO3: Calculate the valuation of suits, Court fees, Professional fee and Welfare of Advocates *Application*

LAW202-CO4: Analysis the Law relating to the Contempt of Court Act and protection mechanism in the light of the Indian and International Framework *Comprehension*

4. Course Name: Labour & Industrial Law - I

Course Code: LAW123



LAW123-CO1: Identify the fundamentals of Labor Laws prevalent in the country.
Comprehension

LAW123-CO2: Analyze the guiding principles and applicable doctrines of select subfields of Labor & Industrial laws. *Analysis*

LAW123-CO3: Able to identify latest issues pertaining to Labor laws and its general principles. *Analysis*

LAW123-CO4: Find out the intellectual tools necessary to properly conceptualize the Law relating to Labor laws in India and the necessary changes pertaining to the same *Knowledge*

5. Course Name: Public International Law-I

Course Code: LAW120

LAW120-CO1: Outline the basic concepts and legal foundations of Public International law.
Comprehension

LAW120-CO2: Apply sources of International Law to contemporary scenarios. *Comprehension*

LAW120-CO3: Explain relationship between International Law and Municipal Law.
Comprehension

LAW120-CO4: Identify the criteria for State Recognition and State Succession *Application*

LAW120-CO5: Discuss different organs of UN and the role of UN in settlement of international disputes. *Comprehension*

6. Course Name: Alternate Dispute Resolution

Course Code: LAW993

LAW993-CO1: 1. Understand various dispute resolution methods that are “alternative” to traditional methods on both a practical and a theoretical level. *Knowledge*

LAW993-CO2: Interpret specific issues and concerns within ADR, such as gender, power, and culture; and be aware of the impact of these issues on the process, the client, the practitioner, and the appropriateness of ADR. *Knowledge*

LAW993-CO3: 3. Demonstrate the possible importance of alternative dispute resolution within the Indian justice system. *Comprehension*

LAW993-CO4: 4. Apply skills, procedures, techniques, and characteristics needed to engage in the various forms of alternative dispute resolution. *Analysis*

LAW993-CO5: 5. Analyse the mediation process. *Knowledge*

LAW993-CO6: Understand the International perspective of ADR. *Knowledge*

7. Course Name: Human Rights

Course Code: LAW304

LAW 304-CO1: Identify the fundamental philosophy and policies concerning human rights.
Knowledge



LAW 304-CO2: Understand the legal impact of international treaties and conventions on the National Human Rights Jurisprudence. *Comprehension*

LAW 304-CO3: Analyze the Human rights protection mechanism available both nationally and internationally. *Analysis*

LAW 304-CO4: Interpret international human rights laws and treaties. *Analysis*

8. Course Name: Intellectual Property Law- II

Course Code: LAW408

LAW 408-CO1: Apply the Patent Laws in National & International perspectives for the protection of inventions. *Application*

LAW 408-CO2: Analyze the problems related to the protection of Bio-Diversity under IPR. *Analysis*

LAW 408-CO3: Comprehend the issues related to the Design under IPR. *Comprehension*

LAW 408-CO4: Understand the contemporary domains and changing dimensions of IPR at the National and International Level. *Comprehension*

9. Course Name: Laws Relating to Mergers & Acquisition

Course Code: LAW406

LAW406-CO1: Explain the basic concepts and rationale behind mergers and acquisitions *Comprehension*

LAW406-CO2: Apply various legal and commercial aspects involved in process of mergers *Application*

LAW406-CO3: Apply various legal and commercial aspects in process of acquisitions *Application*

LAW406-CO4: Analyze various legal and regulatory aspects of Mergers and Acquisitions. *Analysis*

LAW406-CO5: Outline the tax implications of merger and acquisition *Analysis*

10. Course Name: Insolvency and Bankruptcy Law

Course Code: LAW405

LAW405-CO1: Understand the concepts of Insolvency and Bankruptcy *Knowledge*

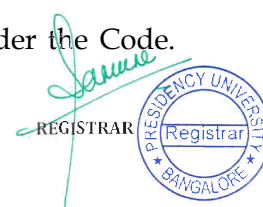
LAW405-CO2: Distinguish between the Corporate Insolvency and Individual Insolvency. *Comprehension*

LAW405-CO3: Explain the role of various intermediaries under the Code. *Application*

LAW405-CO4: Discuss Insolvency resolution for partnership firm *Analysis*

LAW405-CO5: Understand the role of authorities in the Insolvency and Bankruptcy Board of India *Synthesis*

LAW405-CO6: Describe the filing and compliance procedures mentioned under the Code. *Evaluation*



11. Course Name: Health Law

Course Code: LAW314

LAW314-CO1: Examine the intersection between law and medicine and its ramifications.

Analysis

LAW314-CO2: Explain the role of State to provide public health facilities *Comprehension*

LAW314-CO3: Evaluate various issues pertaining to ethic and liability of medical profession

Analysis

LAW314-CO4: Assess various legal provisions pertaining to health sector in both at national and international perspective *Analysis*

LAW314-CO5: Examine the emergence of technology that health sector deploys which could lead to ethical dilemma *Analysis*

12. Course Name: UN and other International Institutions

Course Code: LAW319

LAW319-CO1: Understand the concept of creation of international organizations.

Comprehension

LAW319-CO2: Explain the impact and effectiveness through various international organizations. *Analysis*

LAW319-CO3: Examine substantive issues that are handled by various international organizations. *Analysis*

LAW319-CO4: Assess the key normative debates arising from the quest for global governance.

Analysis

13. Course Name: Human Rights

Course Code: LAW304

LAW 304-CO1: Identify the fundamental philosophy and policies concerning human rights.

Knowledge

LAW 304-CO2: Understand the legal impact of international treaties and conventions on the National Human Rights Jurisprudence. *Comprehension*

LAW 304-CO3: Analyze the Human rights protection mechanism available both nationally and internationally. *Analysis*

LAW 304-CO4: Interpret international human rights laws and treaties. *Analysis*

14. Course Name: Intellectual Property Rights

Course Code: LAW303

LAW 303-CO1: Outline the basics concepts of IPR from a National & International perspective

Knowledge



LAW 303-CO2: Analyse the problems related basics of copyright, and the related protection mechanism in the light of the Indian and International Framework *Analysis*

LAW 303-CO3: Identify the issues related to the Trademark. *Analysis*

LAW 303-CO4: Discuss the concept of GI with the help of a Case Study. *Comprehension*

15. **Course Name:** Labour and Industrial Law I

Course Code: LAW123

LAW123-CO1: This course is designed to improve the learners' EMPLOYABILITY SKILLS by using EXPERIENTIAL LEARNING techniques. *Knowledge*

LAW123-CO2: This course is designed to improve the learners' EMPLOYABILITY SKILLS by using EXPERIENTIAL LEARNING techniques. *Application*

LAW123-CO3: This course is designed to improve the learners' EMPLOYABILITY SKILLS by using EXPERIENTIAL LEARNING techniques. *Application*

LAW123-CO4: This course is designed to improve the learners' EMPLOYABILITY SKILLS by using EXPERIENTIAL LEARNING techniques. *Comprehension*

16. **Course Name:** Public International Law II

Course Code: LAW136

LAW 136-CO1: Analyze the concept of State Responsibility in the wake of contemporary world issues. *Analysis*

LAW 136-CO2: Examine the complexity of international legal regimes and disputes on the law of the sea. *Comprehension*

LAW 136-CO3: Critique the concept of jurisdiction vis-à-vis States. *Analysis*

LAW 136-CO4: Analyze the position of Diplomatic Agents and their immunities. *Application*

LAW 136-CO5: Analyze the issues and challenges being faced by the contemporary international legal regime. *Application*

17. **Course Name:** Company law II

Course Code: LAW119

LAW119-CO1: Explain the legal issues in the administration and management of a registered company. *Comprehension*

LAW119-CO2: Analyze the principles laid down in the leading case laws. *Analysis*

LAW119-CO3: Apply the efficacy of those principles in the working of Modern Corporation. *Application*

LAW119-CO4: Analyze the acquired problem recognition and problem identification skills necessary in the modern business environment as well as for the more advanced commercial law papers *Analysis*

LAW119-CO5: Analyze the foundational principles of Indian corporate law, undertake legal research with primary and secondary materials, and evaluate legal information. *Analysis*



18. Course Name: Health Law

Course Code: LAW314

LAW314-CO1: Examine the intersection between law and medicine and its ramifications.

Analysis

LAW314-CO2: Explain the role of State to provide public health facilities *Comprehension*

LAW314-CO3: Evaluate various issues pertaining to ethic and liability of medical profession

Analysis

LAW314-CO4: Assess various legal provisions pertaining to health sector in both at national and international perspective *Analysis*

LAW314-CO5: Examine the emergence of technology that health sector deploys which could lead to ethical dilemma *Analysis*

19. Course Name: Laws Relating to Mergers & Acquisition

Course Code: LAW406

LAW406-CO1: Explain the basic concepts and rationale behind mergers and acquisitions

Comprehension

LAW406-CO2: Apply various legal and commercial aspects involved in process of mergers

Application

LAW406-CO3: Apply various legal and commercial aspects in process of acquisitions

Application

LAW406-CO4: Analyze various legal and regulatory aspects of Mergers and Acquisitions.

Analysis

LAW406-CO5: Outline the tax implications of merger and acquisition *Analysis*

20. Course Name: Professional Ethics in Accounting

Course Code: BCL110

BCL110-CO1: Demonstrate an understanding of the principles of professional ethics, advocacy, standards of professional conduct, and the bench bar relationship. *Knowledge*

BCL110-CO2: Define the law relating to Advocates, and the professional body regulating the legal profession *Comprehension*

BCL110-CO3: Calculate the valuation of suits, court fees, and professional fee *Comprehension*

BCL110-CO4: Define the Law relating to the Contempt of Court Act *Comprehension*

21. Course Name: Entrepreneurship & New Business Development

Course Code: BBL112

BBL112-CO1: Recognize the basic concepts of Management. *Knowledge*



BBL112-CO2: Discuss the meaning and objectives of internal check & internal control.
Knowledge

BBL112-CO3: Explain the Importance of audit programme *Knowledge*

BBL112-CO4: : Show the procedure of appointment and removal of auditor. *Knowledge*

22. **Course Name:** International Institutions and Foreign Policies

Course Code: BAL106

BAL106-CO1: Understand the concept of creation of International Organizations *Knowledge*

BAL106-CO2: Explain the impact and effectiveness of various international organizations.
Comprehension

BAL106-CO3: Illustrate substantive issues that are handled by various international organizations. *Analysis*

BAL106-CO4: Analyze the key normative debates arising from the quest for global governance. *Analysis*

BAL106-CO5: Assess the relevance of International Institutions. *Analysis*

23. **Course Name:** MS Office

Course Code: BCA1003

BCA1003-CO1: Describe the usage of computers and why computers are essential components in business and Society *Comprehension*

BCA1003-CO2: Utilize the Internet Web resources and evaluate on-line e-business system.
Comprehension

BCA1003-CO3: Solve common business problems using appropriate Information Technology applications and systems. *Comprehension*

BCA1003-CO4: Identify categories of programs, system software and applications. Organize and work with files and folders. *Comprehension*

24. **Course Name:** Family Law I

Course Code: LAW3005

LAW3005-CO2: Identify the principles of Sharia Law in matters of marriage *Comprehension*

LAW3005-CO3: Enhance their understanding on the current laws on divorce, maintenance and dower *Comprehension*

LAW3005-CO4: Interpret various judicial interpretations with regard to inheritance under Muslim Law. *Application*

LAW3005-CO5: Application of the legal provisions and precedents to hypothetical problems relating to Will, Wakf & Hiba *Analysis*



25. Course Name: CRPC

Course Code: LAW3004

LAW3004-CO1: Explain the scope and applicability of the Code

Explain the powers, functions, and duties of police and criminal courts

KNOWLEDGE

LAW3004-CO2: Identify the stages in investigation and procedure of trial in criminal cases

Comprehension

LAW3004-CO3: Discuss the provisions of CrPC and apply them in judicial proceedings.

Comprehension

LAW3004-CO4: Curative petition, Irregular Proceedings *KNOWLEDGE*

LAW3004-CO5: Explain the transformation of the concept from juvenile delinquency to a juvenile in conflict with the law the in Indian context and elaborate Juvenile Justice System in India *Comprehension*

26. Course Name: Company Law- I

Course Code: LAW3007

LAW3007-CO1: Apply the sections of Company Act, 2013 in Corporate Litigation *Knowledge*

LAW3007-CO2: Analyze the foundational principles of Indian corporate law, undertake legal research with primary and secondary materials, and evaluate legal information.

Comprehension

LAW3007-CO3: Acquire problem recognition and problem identification skills necessary in the modern business environment as well as for the more advanced commercial law papers.

Comprehension

LAW3007-CO4: Understand the significant trends and recurring issues in company law.

Application

LAW3007-CO5: Analyze the reconstruction, amalgamation *Application*

LAW3007-CO6: Understand the Contemporary Issues. *Application*

27. Course Name: Indian Government and Politics

Course Code: BAL2003

BAL2003-CO2: Explain different features and approaches to the study of Indian State and Constitution *Comprehension*

BAL2003-CO2: Examine the functioning of democratic, political processes and institutions of governance in India *Comprehension*

BAL2003-CO4: Analyze contemporary issues in Indian politics *Analysis*

BAL2003-CO4: Identify contemporary challenges of Indian Democrac *Analysis*



28. Course Name: Indian Philosophy

Course Code: BAL2011

BAL2011-CO1: Explain the unique features of Indian philosophy *Comprehension*

BAL2011-CO2: Discuss the Indian Metaphysics of various ancient Indian schools of philosophy *Comprehension*

BAL2011-CO3: Identify various facets of Indian epistemology *Analysis*

BAL2011-CO4: Illustrate the debates in Indian philosophy *Analysis*

29. Course Name: International Politics

Course Code: BAL2005

BAL2005-CO1: Define the mainstream theories of international politics *Comprehension*

BAL2005-CO2: Comprehend the role of rise and fall of great powers by using the idea of balance of power and hegemony. *Comprehension*

BAL2005-CO3: Examine the impact of Cold War and post-Cold War developments on international relations. *ANALYSIS*

BAL2005-CO4: Examine the concepts of national power, national interest and collective security. *ANALYSIS*

30. Course Name: Banking and Insurance

Course Code: SOC2002

SOC2002-CO1: Explain the definition, objectives, evolution of Banking and types of Bank *Knowledge*

SOC2002-CO2: Understand the concepts and regulations of Banking & insurance *Comprehension*

SOC2002-CO3: Appreciate the importance of banking and insurance in modern era *Comprehension*

SOC2002-CO4: Comprehend the recent developments in banking industry *Comprehension*

SOC2002-CO5: Examine the kind of relationship this exists between bank and customer *Comprehension*

SOC2002-CO6: Enlisting the difference between Life Insurance and Non-Life Insurance *Application*

31. Course Name: Human Resource Management

Course Code: BBA2003

BBA2003-CO1: Outline the evolution of HRM and roles and responsibilities of a HR Manager *Knowledge*

BBA2003-CO2: Describe the process of Human resources planning and Job design. *Knowledge*



BBA2003-CO3: Outline the factors affecting Recruitment and Selection Process. *Comprehension*

BBA2003-CO4: Recognize the importance of training and its process. *Comprehension*

BBA2003-CO5: Identify various methods of Performance Appraisal *Comprehension*

32. **Course Name:** Financial Accounting

Course Code: SOC2001

SOC2001-CO1: Appreciate the importance of financial accounting and the application of GAAP in accounting. *Knowledge*

SOC2001-CO2: Understand the concepts of revenue, expense, assets, liabilities and capital and the formation of accounting equation. *Analysis*

SOC2001-CO3: Journalizing, posting in Ledger, Trial Balance, Adjusting Entries. *Comprehension*

SOC2001-CO4: The accounting cycle – Final Accounts & Preparation of P/L A/C and Balance Sheet. *Application*

SOC2001-CO5: Financial Statement Analysis – Income Statement & Balance Sheet *Analysis*

33. **Course Name:** International Accounting

Course Code: COM2014

COM2014-CO1: Discuss the nature and scope of international accounting. *Comprehension*

COM2014-CO2: Describe the major environmental factors that influence national accounting systems and lead to accounting diversity. *Comprehension*

COM2014-CO3: Discuss major harmonization efforts at global levels with particular emphasis on international accounting standards. *Comprehension*

COM2014-CO4: Describe the importance of transfer pricing in achieving goal harmony in decentralized organizations and the worldwide efforts to enforce transfer pricing regulations. *Comprehension*

34. **Course Name:** Banking and Insurance

Course Code: SOC2002

SOC2002-CO1: Describe the Commercial Banking and Insurance Systems in India. *Knowledge*

SOC2002-CO2: Identify the Emerging Trends in the Banking Sector. *Knowledge*

SOC2002-CO3: Identify different forms of risk in Banking Sector. *Knowledge*

SOC2002-CO4: Summarize the process of Insurance. *Comprehension*

35. **Course Name:** Investment Management

Course Code: COM2012



COM2012-CO1: Explain about basics of investment and its goals

Application

COM2012-CO2: CO 2: Classify various financial instruments for investment[Comprehension]

Comprehension

COM2012-CO3: CO3:Discuss the functions of the stock exchange and their indicators[Comprehension] *Comprehension*

COM2012-CO4: CO 4: Estimate the Risk and Return of securities[Analysis] *Analysis*

COM2012-CO5: CO 5: Construct a portfolio and estimate their performance[Application]

Application

36. Course Name: Special Contracts

Course Code: LAW2025

LAW2025-CO1: Define the context and rational of specific contracts of Indemnity & Guarantee. *Comprehension*

LAW2025-CO2: Determine the usage of principles and the rights of the parties under Bailment & Pledge *Comprehension*

LAW2025-CO3: Identify the relation of contract of agency with our day to day commercial activities and their impact on social & economic front. *Application*

LAW2025-CO4: Identify the relevant legal issues involved in Sale of Goods Act and its applicability. *Application*

LAW2025-CO5: Apply the relevant principles, legal provisions and the case laws in Partnership Act to the legal issues in contractual dealings and construct a coherent and effective argument for dispute resolution. *Application*

37. Course Name: Soft Skill for Lawyers (Clinical)

Course Code: PPS1005

PPS1005-CO1: CO1 Employ effective communication skills *Application*

PPS1005-CO2: CO2 Practice questioning technique for better decision making *Application*

PPS1005-CO3: CO3 Differentiate individual strengths and weaknesses for self-awareness and stress management *Comprehension*

PPS1005-CO4: CO4 Recognise the need to set SMART GOALS *Comprehension*

PPS1005-CO5: CO5 Practice the effective Time Management techniques. *Application*

38. Course Name: Constitutional Law I

Course Code: LAW2024

LAW2024-CO1: State the evolution of Constitutional law in the existing form. *Knowledge*

LAW2024-CO2: Describe fundamental rights enumerated in Part III of the Constitution of India. *Comprehension*

LAW2024-CO3: Outline articles related to the fundamental right of freedom. *Comprehension*



LAW2024-CO4: Discuss Judicial activism, Writs and PIL. *Comprehension*

LAW2024-CO5: Explain Directive principles of State policy and fundamental duties. *Application*

39. **Course Name:** Family Law- I

Course Code: LAW2026

LAW2026-CO1: Understand the historical perspective of the Hindu Law & Sharia Law. *Comprehension*

LAW2026-CO2: Identify the principles of Hindu Law & Sharia Law in matters of marriage *Comprehension*

LAW2026-CO3: Enhance their understanding on the current laws on divorce, maintenance and dower *Application*

LAW2026-CO4: Interpret various judicial interpretations about Marriage & Divorce under Hindu & Muslim Law. *Comprehension*

LAW2026-CO5: Application of the legal provisions and precedents to hypothetical problems relating to Hindu Law & Muslim Law *Application*

40. **Course Name:** Law and Literature

Course Code: ENG3002

ENG3002-CO1: Explain the interrelationship between law and literature *Comprehension*

ENG3002-CO2: Apply literary tools and close reading in the interpretation of legal texts *Analysis*

ENG3002-CO3: Analyze how literature can aid lawyers and judges to see subjectivity and bias inherent in the justice system *Analysis*

ENG3002-CO4: Develop ethical and moral values which they will utilize in their professional lives *Analysis*

ENG3002-CO5: Analyze legal issues in motion film *Analysis*

41. **Course Name:** Ancient Political thinkers

Course Code: BAL2015

BAL2015-CO1: Understand the origin, evolution and significance of political thought *Knowledge*

BAL2015-CO2: Infer the bases of dialogues, justice, government from Greek political thinkers *Comprehension*

BAL2015-CO3: Explain significance of code of laws, political realism in ancient political thought *Comprehension*

BAL2015-CO4: Identify various streams of ancient Indian political thinkers. *Comprehension*



42. Course Name: Structure of Indian Society

Course Code: BAL2016

BAL2016-CO1: Outline the basic features of Indian society *comprehension*

BAL2016-CO2: Examine the effects of globalization in Indian society. *comprehension*

BAL2016-CO3: Analyze the contemporary issues in Indian society. *analysis*

BAL2016-CO4: List out issues on poverty and development in India. *analysis*

43. Course Name: Macro Economics

Course Code: BBA1006

BBA1006-CO1: analyse the various aspects of Demand Theory *Comprehension*

BBA1006-CO2: equip the students with knowledge about Theory of Production
Comprehension

BBA1006-CO3: To help the students to understand the theories of Product Pricing.
Comprehension

BBA1006-CO4: To help the students to realise the theories of Factor Pricing *Comprehension*

44. Course Name: Cost and Management Accounting

Course Code: BBL2006

BBL2006-CO1: Describe the relationship between Cost and Management accounting.
Knowledge

BBL2006-CO2: Compute methods of cost control via material, labour and overhead costs.
Application

BBL2006-CO3: Interpret the Cash flows from operating, investing and financing activities of business concerns. *Application*

BBL2006-CO4: Analyze the marginal costing technique for decision-making in organizations
Application

BBL2006-CO5: Examine the flexible budget and cash budget *Comprehension*

45. Course Name: Entrepreneurship Development

Course Code: BBL2004

BBL2004-CO1: CO1: Describe the fundamentals of entrepreneurship
Knowledge

BBL2004-CO2: CO 2: Identify the qualitative aspects of entrepreneur *Comprehension*

BBL2004-CO3: CO 3: Review the business environment to form a new business *Comprehension*

BBL2004-CO4: CO4: Classify the sources of funding & legal compliances *Comprehension*

BBL2004-CO5: CO 5: Discuss the need of different types of enterprises *Analysis*



46. Course Name: Financial Management

Course Code: BBL2001

BBL2001-CO1: Recognize the basic concepts of Management. *Knowledge*

BBL2001-CO2: Discuss the meaning and objectives of internal check & internal control
Knowledge

BBL2001-CO3: Explain the Importance of audit programme *Comprehension*

BBL2001-CO4: Show the procedure of appointment and removal of auditor. *APPLICATION*

47. Course Name: Cost Accounting

Course Code: BCL2009

BCL2009-CO1: Identify distinguish various types of costs involved in manufacturing a product *Comprehension*

BCL2009-CO2: Summarize the preparation of Cost sheet quotation *Knowledge*

BCL2009-CO3: Outline various costing methods *Knowledge*

BCL2009-CO4: Summarize Practical applicability of Contract price determination *Knowledge*

BCL2009-CO5: Outline various trends in Cost Control Techniques *Comprehension*

48. Course Name: Management Accounting

Course Code: BCL2010

BCL2010-CO1: Outline the concept and nature of Management Accounting , Management Accountant and Financial statements Analysis *Application*

BCL2010-CO2: : Discuss the Various methods of analyzing balance sheet through Ratio Analysis *Application*

BCL2010-CO3: Recognize the impact of Various items of Balance sheet on company using Fund Flow Statement . *Application*

BCL2010-CO4: Explain the various opportunities available for Management through Cash flow statements *Application*

BCL2010-CO5: Recognize various Budgetary Control techniques and patterns of Report writing. *Application*

49. Course Name: Dissertation/Research Project

Course Code: LAW992

LAW992-CO1: Contextualization of Knowledge *Comprehension*

LAW992-CO2: Finding a compelling research problem *ANALYSIS*

LAW992-CO3: Tasks on evaluating and strengthening research problem *APPLICATION*

LAW992-CO4: Tools for self-evaluation *Comprehension*



School of Media Studies

1. Course Name: Theories and Ideologies of Mass Communication

Course Code: BAJ1014

BAJ 1014-CO1: Identify and investigate the major theories in the various branches of communication studies *Knowledge*

BAJ 1014-CO2: Discuss the connection between the theory and the practice of mass communication and mass media *Comprehension*

BAJ 1014-CO3: Interpret how theory is used in the analysis of issues in communication studies *Application*

BAJ 1014-CO4: Analyse communication as a discipline, in theory, and practice, which directly affects their day-to-day lives and understand the debates in social, cultural, political and economic contexts *Analysis*

2. Course Name: Reporting and Editing Techniques

Course Code: BAJ1020

BAJ1020-CO1: Identify the skills required for reporting, feature writing, subbing, interviewing, researching, designing and layout. *Knowledge*

BAJ1020-CO2: Demonstrate the ability to research and evaluate appropriate news sources. *Application*

BAJ1020-CO3: Apply the art and craft of editing skills *Application*

BAJ1020-CO4: Evaluate the qualities required to be a competent and responsible reporter and editor. *Evaluation*

BAJ1020-CO5: Create news stories using various reporting and writing styles. *Synthesis*

3. Course Name: Current Affairs and Contemporary Issues

Course Code: BAJ1004

BAJ 1004-CO1: Identify various issues and concerns in the world *Knowledge*

BAJ 1004-CO2: Understand the structure of various international groups *Comprehension*

BAJ 1004-CO3: Assess world events to address global issues. *Analysis*

BAJ 1004-CO4: Explain various Indian foreign policies. *Comprehension*

BAJ 1004-CO5: Apply the knowledge in reforming the society. *Application*

BAJ 1004-CO6: Apply the knowledge in reforming the society. *Application*

4. Course Name: Visual Communication and Photography

Course Code: BAJ2042

BAJ 2042-CO1: Describe Visual Communication and its fundamental principles.



Knowledge

BAJ 2042-CO2: Explain visual elements and the principles of composition. *Comprehension*

BAJ 2042-CO3: Understand the functioning and nuances of the camera. *Comprehension*

BAJ 2042-CO4: Create various categories of photographs and photo stories. *Application*

5. **Course Name:** Introduction to Digital Media

Course Code: BAJ1019

BAJ1019-CO1: Understand about the Digital media technologies and platforms that changed the nature of communication. *Knowledge*

BAJ1019-CO2: Define the concepts related to Digital Media. *Knowledge*

BAJ1019-CO3: Understand the various applications of Digital Media. *Comprehension*

BAJ1019-CO4: Identify the various developments in digital communication technologies. *Application*

BAJ1019-CO5: Analyze the latest technologies that are changing the landscape of Digital Media. *Analysis*

6. **Course Name:** Introduction to Media Studies

Course Code: BAJ1018

BAJ1018-CO1: Understand the historical overview of Media and its role in various contexts *Knowledge*

BAJ1018-CO2: Interpret the role of language in development of communication *Application*

BAJ1018-CO3: Describe the role of media in persuasion and dissemination of information among individuals and groups *Application*

BAJ1018-CO4: Enumerate various type of Media and their usage *Application*

BAJ1018-CO5: Evaluate the interplay of Media and Society leading to development activity *Application*

7. **Course Name:** News Desk and News Editing

Course Code: BAJ2005

BAJ2005-CO1: Define the importance, impacts and latest trends of journalism *Knowledge*

BAJ2005-CO2: Discuss how journalists may be collecting and using sources and the implications of these processes. *Comprehension*

BAJ2005-CO3: Illustrate basic skills to find, collect, extract, clean and analyze news *Application*

BAJ2005-CO4: Analyse the emerging trends changing scenario towards news reporting/journalism and editing *Analysis*

8. **Course Name:** Public Relations and Corporate Communications

Course Code: BAJ2010



BAJ2010-CO1: Describe role and importance of Public Relations and Corporate Communication *Knowledge*

BAJ2010-CO2: Evaluate Communication theories and their application in corporate world *Evaluation*

BAJ2010-CO3: Analyze various applications of Social Media Platform used for PR and Corporate Communication *Analysis*

BAJ2010-CO4: Develop corporate communications campaign for public to manage a crisis. *Synthesis*

9. Course Name: Political communication

Course Code: BAJ3017

BAJ3017-CO1: Demonstrate proficiency in crafting and delivering persuasive political messages to target audiences. *Knowledge*

BAJ3017-CO2: Analyze and critically evaluate political communication strategies employed by various actors, such as politicians, interest groups, and media outlets. *Analysis*

BAJ3017-CO3: Apply knowledge of media dynamics and media literacy skills to navigate and engage with different media platforms in the political sphere. *Application*

BAJ3017-CO4: Develop effective communication plans and strategies for political campaigns or advocacy efforts. *Analysis*

BAJ3017-CO5: Understand the ethical implications and considerations in political communication and make informed decisions aligned with ethical standards and principles. *Synthesis*

10. Course Name: Data Journalism

Course Code: BAJ3018

BAJ3018-CO1: Define the importance, impacts and latest trends of data journalism *Knowledge*

BAJ3018-CO2: Discuss how journalists may be collecting and using data and the implications of these processes for the public. *Comprehension*

BAJ3018-CO3: Illustrate basic skills to find, collect, extract, clean and analyze data *Application*

BAJ3018-CO4: Analyse the emerging trends changing scenario towards data journalism and visualization. *Analysis*

BAJ3018-CO5: Analyse the ethical concerns related to emerging media and technologies *Analysis*

11. Course Name: Communication for Social Impact

Course Code: BAJ3007

BAJ3007-CO1: Understand social change theories and their impact on social, cultural, political problems. *Knowledge*



BAJ3007-CO2: Evaluate media's role and impact as a tool for social change. *Evaluation*

BAJ3007-CO3: Assess the role and value of different media *Evaluation*

BAJ3007-CO4: Create social change campaigns addressing a specific systemic social/ political problem. *Synthesis*

12. **Course Name:** Ethics in Media and the legal framework

Course Code: BAJ3001

BAJ3001-CO1: Understand the importance of judicial system as related to media *Knowledge*

BAJ3001-CO2: Interpret various Laws/ Bills/ Acts related to media. *Comprehension*

BAJ3001-CO3: Distinguish between codes, laws and ethics as applicable to media professionals *Application*

BAJ3001-CO4: Analyse the emerging ethical issues such as diversity, advocacy, digital media and political correctness. *Analysis*

13. **Course Name:** Developmental Journalism

Course Code: BAJ2006

BAJ2006-CO1: Understand the key concepts in development and the different models of development *Knowledge*

BAJ2006-CO2: Assess the opportunities of using Journalism as an agent of development and change *Comprehension*

BAJ2006-CO3: Understand the concept of development journalism *Application*

BAJ2006-CO4: Describe how media communicates various development issues *Analysis*

BAJ2006-CO5: Create powerful media narrative aimed at development and social change *Analysis*

BAJ2006-CO6: Build data oriented journalistic reports and features on development *Analysis*

