PRESIDENCY UNIVERSITY

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

Name of the School: School of Engineering **Name of the Department: Mathematics**

Area of Specialization: Mathematics (General) **Name of the Faculty Member: Dr. A. Jasmine Benazir**

Tile of the Value Added Course: R Programming

Course Duration: [30 hours]

Course Code: MATV027

Introduction to the Course:

R is an integrated suite of software facilities for data manipulation, calculation and graphical display. Among other things it has (i) an effective data handling and storage facility, (ii) a suite of operators for calculations on arrays, in particular matrices, (iii) a large, coherent, integrated collection of intermediate tools for data analysis, (iv) graphical facilities for data analysis and display either directly at the computer or on hardcopy, and (v) a well developed, simple and effective programming language (called 'S') which includes conditionals, loops, user defined recursive functions and input and output facilities. R is very much a vehicle for newly developing methods of interactive data analysis. It has developed rapidly, and has been extended by a large collection of packages. However, most programs written in R are written for a single piece of data analysis.

Course Outcomes:

On successful completion of the course the students shall be able to

01: Understand critical programming language concepts
02: Make use of R loop functions and debugging tools
03: Configure statistical programming software
04: Collect detailed information using R profiler

Course Content:

Basic fundamentals, installation and use of software, data editing, functions and matrix operations, Data management with display paste, split, find and replacement, Data frames, import of external data in various file formats, statistical functions, compilation of data, Graphics and plots, statistical functions for central tendency, variation, handling of bi-variate data through graphics, correlations, programming and illustration with examples.

Signature of the Faculty Member **Approval by the HOD**

PRESIDENCY UNIVERSITY IQAC BANGALORE

REGISTRAR

PRESIDENCY UNIVERSITY Registrar BANGALORE

Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS
Total number of hours:30
Value added Course(VAC) Name and Code: R Programming and MATV027
Name of the Instructor: Dr. Jasmine Benazir

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date
2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	07.12.22	07.12.22	10.12.22	10.12.22	14.02.22	14.12.22	21.12.22	21.12.22	24.12.22	24.12.22	28.12.22	28.12.22	31.12.22	31.12.22	04.01.23	04.01.23	11.01.23	11.01.23	14.01.23	14.01.23	18.01.23	18.01.23	25.01.23	25.01.23	28.01.23	28.01.23	01.02.23	01.02.23	04.02.23	04.02.23	Total classes conducted	Total classes attended	Percentage attended
			3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45			
1	20221CSE0322	KAVYA R	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	30	29	97
2	20221CSE0320	K GANGOTHRI	A	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	30	27	90
3	20221CSE0316	HARISH S	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	A	P	P	P	A	P	A	P	P	P	A	P	P	P	P	30	24	80
4	20221CSE0315	G SYED LUQMAAN	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
5	20221CSE0313	BHOOMIKA M C	A	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	30	26	87
6	20221CSE0312	H BASAMMA	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	30	28	93
7	20221CSE0310	A SUREKHA	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	30	28	93
8	20221CSE0377	RAYYAN SHARIFF	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	A	P	30	25	83
9	20221CSE0479	YUKTHI S MOHAN	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	A	P	P	A	30	25	83
10	20221CSE0468	SAHANA RAMACHANDRA PATGAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	30	28	93
11	20221CSE0234	SYED THOUSIF	A	A	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	30	25	83
12	20221CSE0265	POLANKI VENKATA CHARAN	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93
13	20221CSE0035	AYUSH SINGH	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	A	P	A	P	P	P	P	30	24	80
14	20221CSE0274	M. PRIYANKA	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	30	27	90

PRESIDENCY UNIVERSITY IQAC BANGALORE

REGISTRAR

PRESIDENCY UNIVERSITY Registrar BANGALORE

Presidency University, Bengaluru

Value Added Course Marksheet

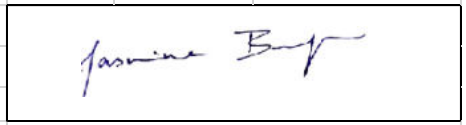
School of Engineering

Course Code :	MATV027		Academic Year :			2022-2023	
Course Name :	R Programming		Semester :			ODD Semester	
			Instructor-in-Charge Name :			Dr. Jasmine Benazir	
			Instructor-in-Charge Employee ID :			PUNIV01526	

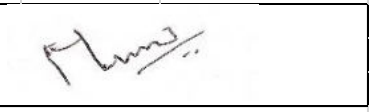
S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221CSE0322	KAVYA R	SOE	97	97	Y	
2	20221CSE0320	K GANGOTHRI	SOE	90	97	Y	
3	20221CSE0316	HARISH S	SOE	80	85	Y	
4	20221CSE0315	G SYED LUQMAAN	SOE	97	88	Y	
5	20221CSE0313	BHOOMIKA M C	SOE	87	83	Y	
6	20221CSE0312	H BASAMMA	SOE	93	88	Y	
7	20221CSE0310	A SUREKHA	SOE	93	95	Y	
8	20221CSE0377	RAYYAN SHARIFF	SOE	83	81	Y	
9	20221CSE0479	YUKTHI S MOHAN	SOE	83	100	Y	
10	20221CSE0468	SAHANA RAMACHANDRA PATGAR	SOE	93	91	Y	
11	20221CSE0234	SYED THOUSIF	SOE	83	90	Y	
12	20221CSE0265	POLANKI VENKATA CHARAN	SOE	93	99	Y	
13	20221CSE0035	AYUSH SINGH	SOE	80	99	Y	
14	20221CSE0274	M. PRIYANKA	SOE	90	79	Y	

Name of Course Instructor : Dr. Jasmine Benazir

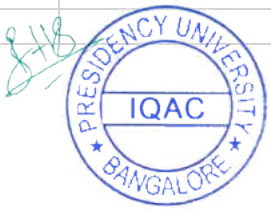
Employee ID of Course Instructor : PUNIV01526

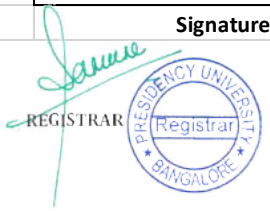


Signature of Instructor-in-Charge



Signature of HOD





PRESIDENCY UNIVERSITY

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Name of the School: School of Engineering **Name of the Department: Mathematics**

Area of Specialization: Mathematics (General) **Name of the Faculty Member: Mrs. Babitha**

Tile of the Value Added Course: Introduction to Maple Programming

Course Duration: [30 hours]

Course Code: MATV030

Introduction to the Course:

Maple is a powerful software program that can be used to solve general-purpose mathematical problems. Problems in the areas of mathematics, science and engineering can be investigated using either Maple's in-built commands, or by utilizing Maple's powerful native programming language to create our own personalized programs. The level of teaching assumes that the student has some fluency in engineering mathematics and can employ the engineering approach to problem solving. The coverage includes symbolic manipulations, numerical calculations and its diverse interactive graphics, optimization, eigenvalue determination and statistics.

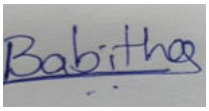
Course Outcomes:

On successful completion of the course the students shall be able to

01: create Maple programs that obtain symbolic solutions to a wide range of engineering topics
02: obtain numerical solutions in a wide range of engineering specialties
03: display the numerical results with annotated graphics

Course Content:

Maple environment and basic syntax, operators, basic commands and plotting: common mathematical function, summation and product, limits, two dimensional and three dimensional plots, evaluations of differentiation and integration, solving equations like algebraic equations and differential equations.



Signature of the Faculty Member **Approval by the HOD**

PRESIDENCY UNIVERSITY IQAC BANGALORE

REGISTRAR

PRESIDENCY UNIVERSITY Registrar BANGALORE

Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS

Total number of hours:30

Value added Course(VAC) Name and Code: Introduction to Maple Programming and MATV030

Name of the Instructor: Mrs. Babitha

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date

2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	07.12.22	07.12.22	10.12.22	10.12.22	14.02.22	14.12.22	21.12.22	21.12.22	24.12.22	24.12.22	28.12.22	28.12.22	31.12.22	31.12.22	04.01.23	04.01.23	11.01.23	11.01.23	14.01.23	14.01.23	18.01.23	18.01.23	25.01.23	25.01.23	28.01.23	28.01.23	01.02.23	01.02.23	04.02.23	04.02.23	Total classes conducted	Total classes attended	Percentage attended
			3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45			
1	20221CSE0307	PRIYANKA G	P	P	P	A	P	P	A	P	P	P	P	P	P	A	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	30	25	83
2	20221CSE0305	PRATHAM S	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
3	20221CSE0303	LINGESH GOWDA V N	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	A	A	P	P	P	P	30	25	83
4	20221CSE0300	CHANDU H S	P	A	P	P	A	P	P	P	A	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	25	83
5	20221CSE0298	BHUVAN B S	P	P	P	P	A	P	P	P	A	A	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	A	30	24	80
6	20221CSE0296	ABHISHEK RAVINDRA NADUGERI	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	30	27	90
7	20221CSE0388	SAKSHI KUMARI	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	A	30	25	83
8	20221CSE0294	PAVAN K	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	30	27	90
9	20221CSE0168	P THANEESHA	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	30	28	93
10	20221CSE0239	BERELA DHEERAJ	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	30	27	90
11	20221CSE0232	PRANEETH REDDY	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	30	28	93
12	20221CSE0224	HARSHA VARDHANA T	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	30	27	90
13	20221CSE0053	SURENDAR R S	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	30	28	93
14	20221CSE0199	K. MANOHITH	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	30	28	93

PRESIDENCY UNIVERSITY IQAC BANGALORE

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Presidency University, Bengaluru

Value Added Course Marksheet

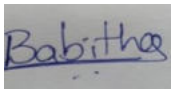
School of Engineering

Course Code :	MATV030		Academic Year :			2022-2023	
Course Name :	Introduction to Maple Programming		Semester :			ODD Semester	
			Instructor-in-Charge Name :			Mrs. Babitha	
			Instructor-in-Charge Employee ID :			PUNIV01610	

S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221CSE0307	PRIYANKA G	SOE	83	85	Y	
2	20221CSE0305	PRATHAM S	SOE	97	96	Y	
3	20221CSE0303	LINGESH GOWDA V N	SOE	83	79	Y	
4	20221CSE0300	CHANDU H S	SOE	83	99	Y	
5	20221CSE0298	BHUVAN B S	SOE	80	80	Y	
6	20221CSE0296	ABHISHEK RAVINDRA NADUGERI	SOE	90	98	Y	
7	20221CSE0388	SAKSHI KUMARI	SOE	83	98	Y	
8	20221CSE0294	PAVAN K	SOE	90	85	Y	
9	20221CSE0168	P THANEESHA	SOE	93	99	Y	
10	20221CSE0239	BERELA DHEERAJ	SOE	90	90	Y	
11	20221CSE0232	PRANEETH REDDY	SOE	93	82	Y	
12	20221CSE0224	HARSHA VARDHANA T	SOE	90	79	Y	
13	20221CSE0053	SURENDAR R S	SOE	93	93	Y	
14	20221CSE0199	K. MANOHITH	SOE	93	98	Y	

Name of Course Instructor : Mrs. Babitha

Employee ID of Course Instructor : PUNIV01610



Signature of Instructor-in-Charge

Signature of HOD

PRESIDENCY UNIVERSITY IQAC BANGALORE

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PRESIDENCY UNIVERSITY

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

Name of the School: School of Engineering **Name of the Department: Mathematics**

Area of Specialization: Mathematics (General) **Name of the Faculty Member: Dr. Vijaylaxmi S. B.**

Title of the Value Added Course: Operations Research and its Applications

Course Duration: [30 hours]

Course Code: MATV032

Introduction to the Course:

Operations research (OR) has emerged as a powerful decision-making tool. OR is both science and an art. It is science because of the mathematical aspects embodied in it and it's an art because solution to the mathematical model depends largely on the creativity and experience of the people working on OR. It also requires attributes such as technical judgement, communication skills and organizational survival. In real system, OR involves the following: identifying a decision problem, setting the model's scope, constructing the mathematical model, deriving a solution methodology, testing the model with real data, establishing the solution and implementing the solution.

Course Outcomes:

On successful completion of the course the students shall be able to

01: identify an operation research problem
02: discuss the mathematical model
03: analyze the solution obtained by solving the mathematical model and make an informed decision.

Course Content:

Introduction to OR, modeling of linear programming problem, solution of LPP with graphical method and Simplex method, transportation problems and its solutions, analysis of optimization problems with applications.

Signature of the Faculty Member

Approval by the HOD

Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS
Total number of hours:30
Value added Course(VAC) Name and Code: Operations Research and its Applications and MATV032
Name of the Instructor: Dr. Vijaylaxmi S B

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date
2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	07.12.22	07.12.22	10.12.22	10.12.22	14.02.22	14.12.22	21.12.22	21.12.22	24.12.22	24.12.22	28.12.22	28.12.22	31.12.22	31.12.22	04.01.23	04.01.23	11.01.23	11.01.23	14.01.23	14.01.23	18.01.23	18.01.23	25.01.23	25.01.23	28.01.23	28.01.23	01.02.23	01.02.23	04.02.23	04.02.23	Total classes conducted	Total classes attended	Percentage attended
			3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45			
1	20221CSG0023	ADARSH A KRISHNA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	30	28	93
2	20221CSG0066	N KIRANMAYI	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	30	28	93
3	20221CSG0045	VIDHYA H R	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	A	P	P	P	P	A	P	P	A	A	P	30	24	80
4	20221CSG0065	VANKARI RAKESH	P	A	P	P	P	P	A	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	30	26	87
5	20221CSG0093	MADHAVARAPU MADHU BABU	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	A	P	P	P	30	27	90
6	20221CSG0041	S E MOHAMMED YOUSUF	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	30	27	90
7	20221CSG0022	TARUN PANDIAN.M	P	P	P	A	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	A	P	P	P	A	P	P	P	30	25	83
8	20221CSG0020	S MOHAMMED AFFAN	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	30	29	97
9	20221CSG0069	SRI SAI RAGHUVEER C	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93
10	20221CSG0059	KARTHIK MP	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	30	100
11	20221CSG0004	RATISH RAJEEV GURAV	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	30	27	90
12	20221CSG0104	TEJAS N	A	A	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	30	24	80
13	20221CSG0006	CEPHA G	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	30	27	90

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Presidency University, Bengaluru

Value Added Course Marksheet

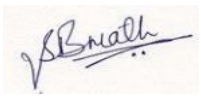
School of Engineering

Course Code :	MATV032		Academic Year :			2022-2023	
Course Name :	Operations Research and its Applications		Semester :			ODD Semester	
			Instructor-in-Charge Name :			Dr. Vijaylaxmi S B	
			Instructor-in-Charge Employee ID :			PUNIV01636	

S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221CSG0023	ADARSH A KRISHNA	SOE	93	93	Y	
2	20221CSG0066	N KIRANMAYI	SOE	93	99	Y	
3	20221CSG0045	VIDHYA H R	SOE	80	81	Y	
4	20221CSG0065	VANKARI RAKESH	SOE	87	93	Y	
5	20221CSG0093	MADHAVARAPU MADHU BABU	SOE	90	99	Y	
6	20221CSG0041	S E MOHAMMED YOUSUF	SOE	90	88	Y	
7	20221CSG0022	TARUN PANDIAN.M	SOE	83	96	Y	
8	20221CSG0020	S MOHAMMED AFFAN	SOE	97	80	Y	
9	20221CSG0069	SRI SAI RAGHUVEER C	SOE	93	96	Y	
10	20221CSG0059	KARTHIK MP	SOE	100	79	Y	
11	20221CSG0004	RATISH RAJEEV GURAV	SOE	90	89	Y	
12	20221CSG0104	TEJAS N	SOE	80	97	Y	
13	20221CSG0006	CEPHA G	SOE	90	85	Y	

Name of Course Instructor : Dr. Vijaylaxmi S B

Employee ID of Course Instructor : PUNIV01636



Signature of Instructor-in-Charge

Signature of HOD

PRESIDENCY UNIVERSITY IQAC BANGALORE

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PRESIDENCY UNIVERSITY

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

Name of the School: School of Engineering **Name of the Department:** Mathematics

Area of Specialization: Numerical Methods **Name of the Faculty Member:** Mr. Mohammad Javed Alam

Tile of the Value-Added Course: Numerical Methods for Ordinary Differential Equations

Course Duration: [30 hours]

Course Code: MATV041

Introduction to the Course:

To deal with a physical problem we often try to construct a mathematical model. These models in general lead to a differential equation which cannot be solved analytically, in very few situations one can get analytic solution. Numerical methods for ordinary differential equations are methods used to find numerical approximations to the solutions of ordinary differential equations (ODEs). Generally, their use is also known as numerical integration. Many differential equations cannot be solved using analysis. For practical purposes, however – such as in engineering – a numeric approximation to the solution is often sufficient. The algorithms studied here can be used to compute such an approximation. Ordinary differential equations occur in many scientific disciplines, including physics, chemistry, biology, and economics. In addition, some methods in numerical partial differential equations convert the partial differential equation into an ordinary differential equation, which must then be solved.

Course Outcomes:

On successful completion of the course the students shall be able to

(a) Determine numerical solution of ordinary differential equations.
(b) Calculate the movement or flow of electricity, motion of an object to and fro like a pendulum, to explain thermodynamics concepts.
(c) Obtain solution of algebraic and transcendental equations.
(d) Model physical problems using mathematical equations, and then solve these equations so that the behavior of the systems concerned can be studied.
(e) Determine minimum/maximum errors.
(f) Interpolation.

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Course Content:

Euler methods and error analysis, Truncation error, Bisection method, secant and regular-falsi method, rate of convergence, Gauss-Jacobi Iteration Method, Gauss-Seidel Iteration Method, Lagrange interpolation, Newton's Divided Difference Interpolation, Newton's forward difference interpolation, Newton's Backward difference interpolation, second and fourth order Runge-Kutta for ODEs and system of ODEs. Finite difference approximations, Finite difference method for Ordinary differential equations, Trapezoidal rule, Simpson's 1/3rd rule, Simpson's 3/8rd rule.

Signature of the Faculty Member

Approval by HOD

PRESIDENCY UNIVERSITY IQAC BANGALORE

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Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS

Total number of hours:30

Value added Course(VAC) Name and Code: Numerical Methods for Ordinary Differential Equations and MATV041

Name of the Instructor: Dr. Mohammad Javeed Alam

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date

2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	07.12.22	07.12.22	10.12.22	10.12.22	14.02.22	14.12.22	21.12.22	21.12.22	24.12.22	24.12.22	28.12.22	28.12.22	31.12.22	31.12.22	04.01.23	04.01.23	11.01.23	11.01.23	14.01.23	14.01.23	18.01.23	18.01.23	25.01.23	25.01.23	28.01.23	28.01.23	01.02.23	01.02.23	04.02.23	04.02.23	Total classes conducted	Total classes attended	Percentage attended
			3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45	3:05-3:55	3:55-4:45			
1	20221COM0060	KAUSTAV KAR	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	30	27	90
2	20221COM0111	NISHMITHA K G	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	P	P	P	P	A	P	P	P	A	P	P	P	30	25	83
3	20221COM0110	MEGHANA A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	30	29	97
4	20221COM0109	ZAID HARIS	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P	30	28	93
5	20221COM0108	VIDYA S	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	A	P	P	30	25	83
6	20221COM0107	SHOBHA	P	P	P	P	P	P	A	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P	30	25	83
7	20221COM0106	RAKSHITHA N	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	A	P	P	P	30	28	93
8	20221COM0114	ABDUL SUBHAN OMEEZ	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	30	28	93
9	20221COM0042	KHADEEJATUL KUBRA	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
10	20221COM0057	DEEPAK L	P	P	A	P	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	30	25	83
11	20221COM0033	TAMEEM KHAN S	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	30	27	90
12	20221COM0112	AMILINENI POOJITHA	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P	A	P	A	P	P	P	A	P	P	P	P	30	25	83
13	20221COM0086	AKHILANDESHWARI S	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
14	20221COM0059	JUTURU GOKUL SAINATH REDDY	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	A	P	A	P	A	P	A	P	P	P	P	P	P	P	30	26	87
15	20221COM0029	DUDEKULA KUTAGULLA SAMEER AFFAAN	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	30	100
16	20221COM0087	DUDDUKURI SRI ADITYA	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
17	20221COM0040	VAISHNAV KRISHNA P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	30	28	93
18	20221COM0065	GADDAM NIKHIL REDDY	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	A	P	30	27	90
19	20221COM0122	EYAD ASAD KHAN	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	A	P	P	P	A	A	P	P	30	25	83
20	20221COM0015	DHANUSH G	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	30	28	93
21	20221COM0082	YASHASWINI M	A	P	A	P	P	A	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	A	A	A	P	A	P	P	30	21	70

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Presidency University, Bengaluru

Value Added Course Marksheet

School of Engineering

Course Code :	MATV041		Academic Year :			2022-2023	
Course Name :	Numerical Methods for Ordinary Differential Equations		Semester :			ODD Semester	
			Instructor-in-Charge Name :			Dr. Mohammad Javeed Alam	
			Instructor-in-Charge Employee ID :			PUNIV01748	

S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221COM0060	KAUSTAV KAR	SOE	90	84	Y	
2	20221COM0111	NISHMITHA K G	SOE	83	95	Y	
3	20221COM0110	MEGHANA A	SOE	97	97	Y	
4	20221COM0109	ZAID HARIS	SOE	93	89	Y	
5	20221COM0108	VIDYA S	SOE	83	89	Y	
6	20221COM0107	SHOBHA	SOE	83	90	Y	
7	20221COM0106	RAKSHITHA N	SOE	93	83	Y	
8	20221COM0114	ABDUL SUBHAN OMEEZ	SOE	93	99	Y	
9	20221COM0042	KHADEEJATUL KUBRA	SOE	97	85	Y	
10	20221COM0057	DEEPAK L	SOE	83	98	Y	
11	20221COM0033	TAMEEM KHAN S	SOE	90	94	Y	
12	20221COM0112	AMILINENI POOJITHA	SOE	83	84	Y	
13	20221COM0086	AKHILANDESHWARI S	SOE	97	100	Y	
14	20221COM0059	JUTURU GOKUL SAINATH REDDY	SOE	87	87	Y	
15	20221COM0029	DUDEKULA KUTAGULLA SAMEER AFFAA	SOE	100	88	Y	
16	20221COM0087	DUDDUKURI SRI ADITYA	SOE	97	92	Y	
17	20221COM0040	VAISHNAV KRISHNA P	SOE	93	83	Y	
18	20221COM0065	GADDAM NIKHIL REDDY	SOE	90	89	Y	
19	20221COM0122	EYAD ASAD KHAN	SOE	83	100	Y	
20	20221COM0015	DHANUSH G	SOE	93	100	Y	
21	20221COM0082	YASHASWINI M	SOE	70	97	Y	

Name of Course Instructor : Dr. Mohammad Javeed Alam

Employee ID of Course Instructor : PUNIV01748

Signature of Instructor-in-Charge

Signature of HOD

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PRESIDENCY UNIVERSITY

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

Name of the School: School of Engineering **Name of the Department: Mathematics**

Area of Specialization: Mathematics (General) **Name of the Faculty Member: Dr. R. Gopi**

Tile of the Value Added Course: Advanced Fixed Point Theory

Course Duration: [30 hours]

Course Code: MATV028

Introduction to the Course:

Numerous problems in science and engineering defined by nonlinear functional equations can be solved by reducing them to an equivalent fixed-point problem. In fact, an operator equation $Gx = 0$ may be expressed as a fixed-point equation $Fx = x$, where F is a self-mapping with some suitable domain. Fixed Point Theory provides essential tools for solving problems arising in various branches of mathematical analysis, such as split feasibility problems, variational inequality problems, nonlinear optimization problems, equilibrium problems, complementarity problems, selection and matching problems, and problems of proving the existence of solution of integral and differential equations.

Course Outcomes:

On successful completion of the course the students shall be able to

01: apply the concept of fixed point theorems for non-linear equations
02: obtain sufficient and necessary conditions for the existence of solution for some non-linear equations

Course Content:

Banach's contraction principle, further extensions, Caristi–Ekeland principle, equivalance of Caristi- principles. Fixed Point Theorems in partially ordered spaces and other abstract spaces. Generalized Banach Fixed point theorem, Upper and lower semi continuity of multivalued maps, generalized Schauder, fixed point theorem, variational Inequalities and the Browder Fixed-Point theorem, extremal Principle, applications to Game Theory, Michael's selection theorem. Fixed point theorem for continuous functions, Brouwer's theorem, Schauder's theorem, applications - Hairy ball theorem, pancake problems, Kyfan's best approximation theorem.

Signature of the Faculty Member **Approval by the HOD**

PRESIDENCY UNIVERSITY IQAC BANGALORE

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Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS
Total number of hours:30
Value added Course(VAC) Name and Code: Advanced Fixed Point Theory and MATV028
Name of the Instructor: Dr. R. Gopi

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date
2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	27.03.23	01.03.23	03.03.23	08.03.23	10.03.23	12.03.23	15.03.23	17.03.23	22.03.23	24.03.23	29.03.23	31.03.23	05.04.23	07.04.23	12.04.23	14.04.23	19.04.23	21.04.23	26.04.23	28.04.23	03.05.23	05.05.23	10.05.23	12.05.23	17.05.23	19.05.23	21.05.23	23.05.23	24.05.23	27.05.23	Total classes conducted	Total classes attended	Percentage attended
			11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1			
1	20221CDV0012	RAMYA V	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	30	27	90
2	20221CDV0011	M.THRISHA	P	P	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93
3	20221CDV0038	SUSMITHA S	P	A	P	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	30	26	87
4	20221CDV0037	SACHIN S	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93
5	20221CDV0023	R MOHAMMED ASIM	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	30	26	87
6	20221CDV0030	GAANAVADITYA REDDY MORRAMREDDYGARI	P	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	30	26	87
7	20221CDV0010	THAKKELLA LATHIF NAIDU	P	P	P	A	P	A	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	26	87
8	20221CDV0009	P LAKSHMI NARASIMHA	P	P	P	P	A	A	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	26	87
9	20221CDV0008	PASUPULA PREM SAI	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	30	29	97
10	20221CDV0029	S HARSHAVARDHAN VARMA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P	30	28	93
11	20221CDV0039	THOTA HARSHITH KRISHNA	P	P	P	A	P	P	P	P	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	30	25	83

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Presidency University, Bengaluru

Value Added Course Marksheet

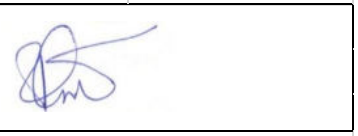
School of Engineering

Course Code :	MATV028		Academic Year :			2022-2023	
Course Name :	Advanced Fixed Point Theory		Semester :			EVEN Semester	
			Instructor-in-Charge Name :			Dr. R. Gopi	
			Instructor-in-Charge Employee ID :			PUNIV01590	

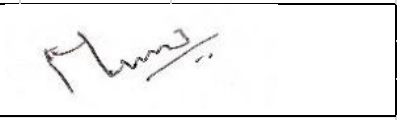
S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221CDV0012	RAMYA V	SOE	90	79	Y	
2	20221CDV0011	M.THRISHA	SOE	93	84	Y	
3	20221CDV0038	SUSMITHA S	SOE	87	87	Y	
4	20221CDV0037	SACHIN S	SOE	93	100	Y	
5	20221CDV0023	R MOHAMMED ASIM	SOE	87	98	Y	
6	20221CDV0030	GAANAVADITYA REDDY MORRAMREDDY	SOE	87	92	Y	
7	20221CDV0010	THAKKELLA LATHIF NAIDU	SOE	87	86	Y	
8	20221CDV0009	P LAKSHMI NARASIMHA	SOE	87	96	Y	
9	20221CDV0008	PASUPULA PREM SAI	SOE	97	99	Y	
10	20221CDV0029	S HARSHAVARDHAN VARMA	SOE	93	97	Y	
11	20221CDV0039	THOTA HARSHITH KRISHNA	SOE	83	79	Y	

Name of Course Instructor : Dr. R. Gopi

Employee ID of Course Instructor : PUNIV01590



Signature of Instructor-in-Charge



Signature of HOD

PRESIDENCY UNIVERSITY IQAC BANGALORE

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PRESIDENCY UNIVERSITY

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

Name of the School: School of Engineering **Name of the Department: Mathematics**

Area of Specialization: Mathematics (General) **Name of the Faculty Member: Dr. Manisha Chaudhary**

Tile of the Value-Added Course: Introduction to Ordinary Differential Equations

Course Duration: [30 hours]

Course Code: MATV033

Introduction to the Course:

In this introductory course on Ordinary Differential Equations, we first provide basic terminologies on the theory of differential equations and then proceed to methods of solving various types of ordinary differential equations. We handle first order differential equations and then second order linear differential equations. We also discuss some related concrete mathematical modeling problems, which can be handled by the methods introduced in this course.

Course Outcomes:

On successful completion of the course the students shall be able to

01: create Mathematical model based on a wide range of engineering area.
02: obtain numerical solutions in a wide range of engineering specialties
03: solve different type of Ordinary differential equations based on real world problems

Course Content:

First Order Differential Equation, Formation of Mathematical Models, Mathematical Modeling and Applications, Linear Second Order Equations, Applications of Second Order Equations.

Signature of the Faculty Member **Approval by the HOD**

PRESIDENCY UNIVERSITY IQAC BANGALORE

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Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS
Total number of hours:30
Value added Course(VAC) Name and Code: Introduction to Ordinary Differential Equations and MATV033
Name of the Instructor: Dr. Manisha Chaudhary

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date
2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	27.03.23	01.03.23	03.03.23	08.03.23	10.03.23	12.03.23	15.03.23	17.03.23	22.03.23	24.03.23	29.03.23	31.03.23	05.04.23	07.04.23	12.04.23	14.04.23	19.04.23	21.04.23	26.04.23	28.04.23	03.05.23	05.05.23	10.05.23	12.05.23	17.05.23	19.05.23	21.05.23	23.05.23	24.05.23	27.05.23	Total classes conducted	Total classes attended	Percentage attended
			11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1			
1	20221CBC0009	SHETTY PRATIKSHA KARUNAKAR	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	A	A	P	A	P	A	P	P	P	P	P	P	30	24	80
2	20221CBC0016	TIMMIREDDIGARI GUNASHEKHAR REDDY	A	P	P	P	P	P	P	A	P	P	P	P	A	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	30	25	83
3	20221IST0021	KADAVAKOLLA LIKHITHA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	P	P	P	P	A	P	P	A	P	P	P	30	24	80
4	20221IST0001	HARIPRIYA BURAGOHAIN	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	30	28	93
5	20221IST0023	G DHANUSH	P	P	P	A	P	P	P	A	P	A	P	P	P	A	A	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	30	23	77
6	20221IST0011	GUDDITI YASWANTH KUMAR	P	P	P	P	P	A	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	30	26	87
7	20221IST0070	SAKETH KOYYALA	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	A	P	P	P	P	A	P	P	30	26	87
8	20221IST0010	GUDDITI SANDHYA	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	A	P	30	25	83
9	20221IST0064	S ABHINAV	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	A	A	P	P	P	P	P	P	P	30	25	83
10	20221IST0060	GAGAN D	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P	A	P	P	P	P	P	P	P	30	26	87
11	20221IST0051	ARUGUNTA JASWANTH REDDY	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	30	28	93
12	20221CBC0014	POLANA RAM SAMPATH	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	A	P	P	P	A	P	P	P	P	30	26	87
13	20221CBC0011	JEEVAN R	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	30	27	90
14	20221CBC0015	LOHITH S L	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	30	26	87
15	20221IST0012	AYESHA BANU	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	30	27	90
16	20221CBC0023	ADITYA SAHANI	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	A	P	P	30	26	87
17	20221CBC0004	BUGGANA THARAKESWAR REDDY	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	30	28	93

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Presidency University, Bengaluru

Value Added Course Marksheet

School of Engineering

Course Code :	MATV033		Academic Year :			2022-2023	
Course Name :	Introduction to Ordinary Differential Equations		Semester :			EVEN Semester	
			Instructor-in-Charge Name :			Dr. Manisha Chaudhary	
			Instructor-in-Charge Employee ID :			PUNIV01598	
S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221CBC0009	SHETTY PRATIKSHA KARUNAKAR	SOE	80	80	Y	
2	20221CBC0016	TIMMIREDDIGARI GUNASHEKHAR REDD	SOE	83	85	Y	
3	20221IST0021	KADAVAKOLLA LIKHITHA	SOE	80	91	Y	
4	20221IST0001	HARIPRIYA BURAGOHAIN	SOE	93	91	Y	
5	20221IST0023	G DHANUSH	SOE	77	87	Y	
6	20221IST0011	GUDDITI YASWANTH KUMAR	SOE	87	83	Y	
7	20221IST0070	SAKETH KOYYALA	SOE	87	94	Y	
8	20221IST0010	GUDDITI SANDHYA	SOE	83	89	Y	
9	20221IST0064	S ABHINAV	SOE	83	92	Y	
10	20221IST0060	GAGAN D	SOE	87	81	Y	
11	20221IST0051	ARUGUNTA JASWANTH REDDY	SOE	93	79	Y	
12	20221CBC0014	POLANA RAM SAMPATH	SOE	87	83	Y	
13	20221CBC0011	JEEVAN R	SOE	90	87	Y	
14	20221CBC0015	LOHITH S L	SOE	87	89	Y	
15	20221IST0012	AYESHA BANU	SOE	90	93	Y	
16	20221CBC0023	ADITYA SAHANI	SOE	87	87	Y	
17	20221CBC0004	BUGGANA THARAKESWAR REDDY	SOE	93	90	Y	

Name of Course Instructor : Dr. Manisha Chaudhary

Employee ID of Course Instructor : PUNIV01598

Signature of Instructor-in-Charge

Signature of HOD

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PRESIDENCY UNIVERSITY

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

Name of the School: School of Basic Science **Name of the Department:** Mathematics

Name of the Faculty Member: Dr. Mobeen Ahmad **Area of Specialization:** Functional Analysis

Tile of the Value Added Course: Convex Optimization Techniques

Course Duration: [30 hours] [From to]

Course Code: MATV036

Introduction to the Course

Convex optimization techniques are essential for data science, machine learning, artificial intelligence, and allied areas. The aim of this course is to bring the foundational topics of convex optimization to the fore and deliver the information in a self-contained manner. The course will start with a comprehensive introduction to the fundamental mathematical topics, which will be followed by discussions on models and algorithms. Numerous applications will be covered.

Course Outcomes: On successful completion of the course the students shall be able to:

1. Undertraining the importance of optimization in the various science and engineering discipline
2. Formulate and solve optimization problem
3. build their expertise in the area of optimization applications

Course Content:

Introduction to optimization problems, Basic Linear Algebra, Analysis, Calculus, Convex Analysis.

First Order Conditions for Optimality, Lagrangian Duality.

Unconstrained Optimization and Descent Methods, Newton's Method, Barrier Functions and Interior Point Method

References

1. Lectures on Modern Convex Optimization by Aharon BenTal and Arkadi Nemirovski.
2. Convex Optimization by Stephen Boyd and Lieven Vandenberghe, Cambridge University Press.
3. Convex Analysis and Optimization by Dmitri Bertesekas, A. Nedic and A. Ozdaglar, Athena Scientific.

Signature of the Faculty Member **Approval by the HOD**

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Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS
Total number of hours:30
Value added Course(VAC) Name and Code: Convex Optimization Techniques and MATV036
Name of the Instructor: Dr. Mobeen Ahmad

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date
2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	27.03.23	01.03.23	03.03.23	08.03.23	10.03.23	12.03.23	15.03.23	17.03.23	22.03.23	24.03.23	29.03.23	31.03.23	05.04.23	07.04.23	12.04.23	14.04.23	19.04.23	21.04.23	26.04.23	28.04.23	03.05.23	05.05.23	10.05.23	12.05.23	17.05.23	19.05.23	21.05.23	23.05.23	24.05.23	27.05.23	Total classes conducted	Total classes attended	Percentage attended
			11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1			
1	20221CAI0075	SHAILESH K R	A	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93
2	20221CAI0076	VAISHNAVI P SOORAJ	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
3	20221CAI0077	ABDUL PARVEEZ Y A	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	30	26	87
4	20221CAI0078	AHAD MALIK	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	30	29	97
5	20221CAI0079	ANANT	P	P	P	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93
6	20221CAI0080	HARISH C	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	30	100
7	20221CAI0081	LOKESH T	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	30	26	87
8	20221CAI0082	NIKHITA NINGAPPA MULAGUND	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
9	20221CAI0043	ARVETI NAVYA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	30	28	93
10	20221CAI0026	SACHIN . S	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	30	28	93
11	20221CAI0099	SIDDARTHA B V	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	A	P	P	P	A	P	A	P	P	P	P	P	P	P	P	30	25	83
12	20221CAI0052	KEERTHANA B	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	30	100

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Presidency University, Bengaluru

Value Added Course Marksheet

School of Engineering

Course Code :	MATV036		Academic Year :			2022-2023	
Course Name :	Convex Optimization Techniques		Semester :			EVEN Semester	
			Instructor-in-Charge Name :			Dr. Mobeen Ahmad	
			Instructor-in-Charge Employee ID :			PUNIV01647	

S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221CAI0075	SHAILESH K R	SOE	93	89	Y	
2	20221CAI0076	VAISHNAVI P SOORAJ	SOE	97	79	Y	
3	20221CAI0077	ABDUL PARVEEZ Y A	SOE	87	81	Y	
4	20221CAI0078	AHAD MALIK	SOE	97	82	Y	
5	20221CAI0079	ANANT	SOE	93	87	Y	
6	20221CAI0080	HARISH C	SOE	100	84	Y	
7	20221CAI0081	LOKESH T	SOE	87	95	Y	
8	20221CAI0082	NIKHITA NINGAPPA MULAGUND	SOE	97	89	Y	
9	20221CAI0043	ARVETI NAVYA	SOE	93	98	Y	
10	20221CAI0026	SACHIN . S	SOE	93	92	Y	
11	20221CAI0099	SIDDARTHA B V	SOE	83	89	Y	
12	20221CAI0052	KEERTHANA B	SOE	100	80	Y	

Name of Course Instructor : Dr. Mobeen Ahmad

Employee ID of Course Instructor : PUNIV01647

Signature of Instructor-in-Charge

Signature of HOD

PRESIDENCY UNIVERSITY IQAC BANGALORE

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PRESIDENCY UNIVERSITY

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

Name of the School: School of Basic Science **Name of the Department:** Mathematics

Area of Specialization: Operations Research **Name of the Faculty Member:** Dr. C. Muralidaran

Title of the Value Added Course: Fuzzy Graphs and its Relations **Course Duration: [30 hours]**

Course Code: MATV044

Introduction to the Course: [Write about a para, indicating the purpose of this course, nature of the course and prerequisites of the course] [It is same as our course description in the course hand out]

Graph theory is a very significant tool to represent many real-world problems. Currently, graphs do not represent all the systems properly due to the uncertainty or haziness of the parameters of systems. Applications of fuzzy graph include data mining, image segmentation, clustering, image capturing, networking, communication, planning, scheduling, etc. Crisp graph and fuzzy graph both are structurally similar. But when there is an uncertainty on vertices and/or edges then fuzzy graph has a separate importance. Since the world is full of uncertainty so the fuzzy graph occurs in many real-life situations.

Course Outcomes: On successful completion of the course the students shall be able to:

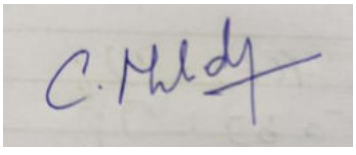
01 Gain the theoretical knowledge of fuzzy graphs

02 Understand the applications of fuzzy graphs

03 Apply the Mathematical knowledge in the real-world applications

Course Content: [Briefly mention all the important topics to be covered in this course]

Fuzzy Graph, α-cut of a fuzzy relation, Characteristics of Fuzzy Relation, Fuzzy equivalence relation, similarity relation, Fuzzy compatibility relation, Fuzzy pre-order relation, Fuzzy order relation, Fuzzy ordinal relation and Dissimilitude relation.



Signature of the Faculty Member

PRESIDENCY UNIVERSITY IQAC BANGALORE

Approval by the HOD

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Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS
Total number of hours:30
Value added Course(VAC) Name and Code: Fuzzy Graphs and its Relations MATV044
Name of the Instructor: Dr. Muralidharan

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date
2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	02.04.22	02.04.22	03.04.22	03.04.22	09.04.22	09.04.22	10.04.22	10.04.22	16.04.22	16.04.22	17.04.22	17.04.22	23.04.22	23.04.22	24.04.22	24.04.22	30.04.22	30.04.22	01.0522	01.0522	07.05.22	07.05.22	08.05.22	08.05.22	14.05.22	14.05.22	21.05.22	21.05.22	22.05.22	22.05.22	Total classes conducted	Total classes attended	Percentage attended
			11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1			
1	20221CSD0017	DUDEKULA SHAIKSHAVALI	A	P	P	A	P	P	P	P	P	P	P	P	P	A	P	A	P	A	P	P	P	P	P	P	A	P	A	P	P	P	30	23	77
2	20221CSD0022	PASALA SIVA KUMAR REDDY	P	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	A	P	P	A	P	P	A	P	P	P	A	P	P	P	30	24	80
3	20221CSD0021	S Y VARSHAA	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	30	28	93
4	20221CSD0099	KAMBALA GURU DHEERAJ REDDY	P	P	A	P	A	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	30	24	80
5	20221CSD0153	S SUMANTH PURSHOTHAM	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	30	27	90
6	20221CSD0040	AVINASH MANIVANNAN P	P	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	30	26	87
7	20221CSD0095	PRATHIK KUMAR	P	P	P	P	P	P	P	A	P	P	P	A	P	P	A	P	P	P	P	A	P	A	A	A	P	P	P	P	P	P	30	23	77
8	20221CSD0077	ANIKETH GOWDA C R	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	30	27	90
9	20221CSD0078	DHRITHI K A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	A	30	27	90
10	20221CSD0079	JOSHIKA GOLDLIN J	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	A	P	P	P	A	A	P	P	P	P	P	P	P	30	26	87
11	20221CSD0080	PRATHEEK C N	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	A	P	P	A	P	P	P	A	30	24	80
12	20221CSD0081	RAKSHITHA B	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93
13	20221CSD0082	SNEHA J	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	30	26	87

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Presidency University, Bengaluru

Value Added Course Marksheet

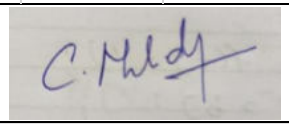
School of Engineering

Course Code :	MATV044		Academic Year :			2022-2023	
Course Name :	Fuzzy Graphs and its Relations		Semester :			EVEN Semester	
			Instructor-in-Charge Name :			Dr.C. Muralidaran	
			Instructor-in-Charge Employee ID :			PUNIV01888	

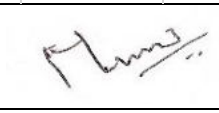
S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221CSD0017	DUDEKULA SHAIKSHAVALI	SOE	77	87	Y	
2	20221CSD0022	PASALA SIVA KUMAR REDDY	SOE	80	99	Y	
3	20221CSD0021	S Y VARSHAA	SOE	93	88	Y	
4	20221CSD0099	KAMBALA GURU DHEERAJ REDDY	SOE	80	98	Y	
5	20221CSD0153	S SUMANTH PURSHOTHAM	SOE	90	90	Y	
6	20221CSD0040	AVINASH MANIVANNAN P	SOE	87	80	Y	
7	20221CSD0095	PRATHIK KUMAR	SOE	77	81	Y	
8	20221CSD0077	ANIKETH GOWDA C R	SOE	90	85	Y	
9	20221CSD0078	DHRITHI K A	SOE	90	80	Y	
10	20221CSD0079	JOSHIKA GOLDLIN J	SOE	87	91	Y	
11	20221CSD0080	PRATHEEK C N	SOE	80	83	Y	
12	20221CSD0081	RAKSHITHA B	SOE	93	94	Y	
13	20221CSD0082	SNEHA J	SOE	87	98	Y	

Name of Course Instructor : Dr.C. Muralidaran

Employee ID of Course Instructor : PUNIV01888



Signature of Instructor-in-Charge



Signature of HOD

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PRESIDENCY UNIVERSITY

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

Name of the School: School of Engineering **Name of the Department: Mathematics**

Area of Specialization: Mathematics (General) **Name of the Faculty Member: Dr. Hussain Basha.**

Title of the Value Added Course: Basics of Origin Software.

Course Duration: [30 hours] **Course Code:** MATV045

Introduction:

Origin is a great example of a widely used professional data analysis tool which can make presenting data easier than ever and it is utilized as a graphing software in industries, academia and government laboratories worldwide. It offers an easy-to-use interface for beginners, combined with the ability to perform advanced customization as the application becomes familiar. It is easy to plotting contour graphs and articulacy in engineering mathematics, curve fitting and its techniques can be employed in solving physical problem process. The course includes interpreting the data in terms of distinct graph types, examine the data points and to introduce the apps in Origin.

Course Outcomes (CO):

On successful completion of the course the students shall be able to

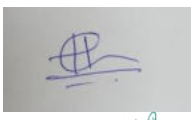
01: Plot graphs using **Origin Software (OS)** which enables to emphasize the data in a systematized manner for a wide range of real-world problems.

02: Display the numerical results with annotated graphics.

03: Create and customize publication-quality graphs.

Course Content:

Origin environment, learning basic interface of Origin, column plot, bar and stacked plots, scatter plot, line plot and customizing graphs to presentation quality levels, merging graphs, functional plots, mathematics on data and plot in varied 3D visualization.



Signature of the Faculty Member

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Approval by the HOD

REGISTRAR

PRESIDENCY UNIVERSITY Registrar BANGALORE

Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS
Total number of hours:30
Value added Course(VAC) Name and Code: Basics of Origin Software and MATV045
Name of the Instructor: Dr. Hussain Basha

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date

2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	27.03.23	01.03.23	03.03.23	08.03.23	10.03.23	12.03.23	15.03.23	17.03.23	22.03.23	24.03.23	29.03.23	31.03.23	05.04.23	07.04.23	12.04.23	14.04.23	19.04.23	21.04.23	26.04.23	28.04.23	03.05.23	05.05.23	10.05.23	12.05.23	17.05.23	19.05.23	21.05.23	23.05.23	24.05.23	27.05.23	Total classes conducted	Total classes attended	Percentage attended
			11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1			
1	20221CIT0078	POOJA C	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	P	P	P	P	P	P	P	30	27	90
2	20221CIT0079	PRAJWAL M	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	30	100
3	20221CIT0080	PRANAVI N	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	A	P	P	P	P	P	P	P	30	27	90
4	20221CIT0081	RAKSHITHA S	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P	30	28	93
5	20221CIT0082	S SREERANJANI	P	A	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	30	25	83
6	20221CIT0083	S NEHASHREE	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	30	28	93
7	20221CIT0084	UTTAM	P	P	P	P	A	P	P	P	P	A	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	A	A	P	30	24	80
8	20221CIT0085	VINOD	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P	A	P	P	A	P	A	P	P	P	30	25	83
9	20221CIT0086	ZOHRA IQBAL	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	30	26	87
10	20221CIT0087	SOHEL BANADAR	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
11	20221CIT0088	VIJAYLAXMI KOUTANALI	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	30	27	90
12	20221CIT0032	AARON GEORGE ABRAHAM	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
13	20211CIT0120	PETLU JAGAN MOHAN RITHIN	P	P	A	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	30	25	83
14	20221CIT0099	KOUSHIK K V	A	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	30	26	87
15	20221CIT0106	SUJAN T S	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93

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Presidency University, Bengaluru

Value Added Course Marksheet

School of Engineering

Course Code :	MATV045		Academic Year :			2022-2023	
Course Name :	Basics of Origin Software		Semester :			EVEN Semester	
			Instructor-in-Charge Name :			Dr. Hussain Basha	
			Instructor-in-Charge Employee ID :			PUNIV01912	
S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221CIT0078	POOJA C	SOE	90	100	Y	
2	20221CIT0079	PRAJWAL M	SOE	100	91	Y	
3	20221CIT0080	PRANAVI N	SOE	90	93	Y	
4	20221CIT0081	RAKSHITHA S	SOE	93	87	Y	
5	20221CIT0082	S SREERANJANI	SOE	83	79	Y	
6	20221CIT0083	S NEHASHREE	SOE	93	95	Y	
7	20221CIT0084	UTTAM	SOE	80	87	Y	
8	20221CIT0085	VINOD	SOE	83	87	Y	
9	20221CIT0086	ZOHRA IQBAL	SOE	87	93	Y	
10	20221CIT0087	SOHEL BANADAR	SOE	97	100	Y	
11	20221CIT0088	VIJAYLAXMI KOUTANALI	SOE	90	97	Y	
12	20221CIT0032	AARON GEORGE ABRAHAM	SOE	97	89	Y	
13	20211CIT0120	PETLU JAGAN MOHAN RITHIN	SOE	83	85	Y	
14	20221CIT0099	KOUSHIK K V	SOE	87	94	Y	
15	20221CIT0106	SUJAN T S	SOE	93	89	Y	

Name of Course Instructor : Dr. Hussain Basha

Employee ID of Course Instructor : PUNIV01912

Signature of Instructor-in-Charge

Signature of HOD

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PRESIDENCY UNIVERSITY

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

Name of the School: School of Engineering **Name of the Department: Mathematics**

Area of Specialization: Mathematics (General) **Name of the Faculty Member: Dr. Felicita Almeida**

Tile of the Value Added Course: Introduction to Magnetohydrodynamics

Course Duration: [30 hours]

Course Code: MATV046

Introduction to the Course:

The course aims to give a qualitative overview on the concept of magentohydrodynamics (MHD) (magnetofluid dynamics or hydromagnetic) which is helpful aspect in engineering mathematics. It establishes a coupling between the Navier-Stokes equations for fluid dynamics and Maxwell's equations for electromagnetism. It is the study of the dynamics of electrically conducting fluids. It is helpful in analyzing fluid dynamics in presence of magnetic field. It describes macroscopic force balance, equilibria, and dynamics. Ideal MHD describes dynamics reasonably well on large scales.

Course Outcomes:

On successful completion of the course the students shall be able to

01: to deal with system of magnetohydrodynamic equations

02: to state the equation of mass continuity and the Navier-Stokes equations for an electrically conducting fluid

03: to solve the governing equations for steady unidirectional flows ("Hartmann flow") and interpret the solution

Course Content:

Outline of Basic equations of MHD, Magnetic induction equation, Lorentz force, MHD approximations, Non-dimensional numbers, velocity, temperature, and magnetic field boundary conditions, Exact solutions for Hartmann flow, isothermal boundary conditions, temperature distribution in Hartmann flow, Hartman Couette Flow, Applications of magnetohydrodynamics.

Signature of the Faculty Member **Approval by the HOD**

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Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS

Total number of hours:30

Value added Course(VAC) Name and Code: Introduction to Magnetohydrodynamics and MATV046

Name of the Instructor: Dr.Felicita Almeida

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date

2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	27.03.23	01.03.23	03.03.23	08.03.23	10.03.23	12.03.23	15.03.23	17.03.23	22.03.23	24.03.23	29.03.23	31.03.23	05.04.23	07.04.23	12.04.23	14.04.23	19.04.23	21.04.23	26.04.23	28.04.23	03.05.23	05.05.23	10.05.23	12.05.23	17.05.23	19.05.23	21.05.23	23.05.23	24.05.23	27.05.23	Total classes conducted	Total classes attended	Percentage attended
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1	20221ISE0061	POOJA BAGODI	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93
2	20221ISE0028	KARAN MENDOZA	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	30	27	90
3	20221ISE0169	YASHPAL SINGH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	30	100
4	20221ISE0011	BALARAM ABHISHEK .	P	P	P	P	P	P	A	P	P	P	P	A	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	30	26	87
5	20221ISE0024	N . POORVIK	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	30	28	93
6	20221ISE0043	ENUGANTI JAYASAI DEEPIKA	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	30	28	93
7	20221ISE0164	KINNERA GP	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	P	30	27	90
8	20221ISE0001	GORTHI DEVENDRA NAIDU	P	P	P	P	A	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	27	90
9	20221ISE0006	LOKABHUSHAN	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	30	28	93
10	20221ISE0033	DAPPILI NAGA GOPIKRISHNA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	30	100

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Presidency University, Bengaluru

Value Added Course Marksheet

School of Engineering

Course Code :	MATV046		Academic Year :			2022-2023	
Course Name :	Introduction to Magnetohydrodynamics		Semester :			EVEN Semester	
			Instructor-in-Charge Name :			Dr.Felicita Almeida	
			Instructor-in-Charge Employee ID :			PUNIV01919	
S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221ISE0061	POOJA BAGODI	SOE	93	81	Y	
2	20221ISE0028	KARAN MENDOZA	SOE	90	96	Y	
3	20221ISE0169	YASHPAL SINGH	SOE	100	83	Y	
4	20221ISE0011	BALARAM ABHISHEK .	SOE	87	89	Y	
5	20221ISE0024	N . POORVIK	SOE	93	86	Y	
6	20221ISE0043	ENUGANTI JAYASAI DEEPIKA	SOE	93	89	Y	
7	20221ISE0164	KINNERA GP	SOE	90	79	Y	
8	20221ISE0001	GORTHI DEVENDRA NAIDU	SOE	90	84	Y	
9	20221ISE0006	LOKABHUSHAN	SOE	93	97	Y	
10	20221ISE0033	DAPPILI NAGA GOPIKRISHNA	SOE	100	96	Y	

Name of Course Instructor :	Dr.Felicita Almeida
Employee ID of Course Instructor :	PUNIV01919

Signature of Instructor-in-Charge

Signature of HOD

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PRESIDENCY UNIVERSITY

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

Name of the School: School of Engineering **Name of the Department:** Mathematics

Area of Specialization: Boundary layer theory **Name of the Faculty Member:** Dr. M. Manikandan

Title of the Value Added Course: Singular perturbation problems

Course Duration: 30 hours **Course Code: MATV047**

Introduction to the Course:

A differential equation in which a small positive parameter multiplies the highest derivative term in the equation and/or its lower order derivative terms with some conditions is known as a singular perturbation problem. The solution of singular perturbation problem typically contains layers. Singular perturbation problems are widespread in nature. For instance, these problems arise in various fields such as fluid dynamics, elasticity, quantum mechanics, electrical networks, chemical reactor-theory, bio-chemical kinetics, gas porous electrodes theory, aerodynamics, plasma dynamics, oceanography, diffraction theory, reaction-diffusion processes, control systems, human pupil-light reflex, the study of bistable devices and many other areas.

Course Outcomes:

On successful completion of the course the students shall be able to

01. understand the existence of singular perturbation problems and their importance

02. acknowledge the need for the construction of numerical methods to solve singular perturbation problems and the complexity in the construction

03. develop new computational methods and computer algorithms to analyze singular perturbation problems.

Course Content:

Motivation for the study of singular perturbation problems – Simple examples of singular perturbation problems – Numerical methods for singular perturbation problems – Simple fitted mesh methods in one dimension - Convergence of fitted mesh finite difference methods for linear reaction-diffusion and

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convection-diffusion problems in one dimension - Programming with Matlab for fitted mesh finite difference methods for linear reaction-diffusion and convection-diffusion problems in one dimension.

Signature of the Faculty Member

Approval by the HOD

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Presidency University, Bengaluru

Department of Mathematics

School of Engineering

VAC DETAILS
Total number of hours:30
Value added Course(VAC) Name and Code: Singular perturbation problems and MATV047
Name of the Instructor: Dr. M Manikandan

NOTE:1. If 1 or more classes are engaged on same day. Then change timings by repeating date
2. Enter date and timings according to the VAC class engaged

S.No.	STUDENT ID NO	STUDENT NAME	27.03.23	01.03.23	03.03.23	08.03.23	10.03.23	12.03.23	15.03.23	17.03.23	22.03.23	24.03.23	29.03.23	31.03.23	05.04.23	07.04.23	12.04.23	14.04.23	19.04.23	21.04.23	26.04.23	28.04.23	03.05.23	05.05.23	10.05.23	12.05.23	17.05.23	19.05.23	21.05.23	23.05.23	24.05.23	27.05.23	Total classes conducted	Total classes attended	Percentage attended
			11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1	11-12	12-1			
1	20221CBC0025	MANGALI MADHU SAHITYA	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	30	28	93
2	20221IST0039	SNEHA DEY	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	A	P	P	30	26	87
3	20221IST0089	PITTALA APSAR BASHA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	30	28	93
4	20221IST0044	NAVYA M	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	30	26	87
5	20221IST0007	MALLAKALUVA HEMANTH REDDY	P	P	P	A	P	A	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	30	25	83
6	20221IST0037	VAIBHAV JONNAGADDALA	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	30	27	90
7	20221IST0047	MOHAMED AZEEM SHAIKH	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	29	97
8	20221IST0049	RAHUL S GOWDA	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30	28	93
9	20221CBC0010	AKULA NAGA DIVYA DARSHINI	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P	A	P	P	30	25	83
10	20221CBC0005	VARSHA BR	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	30	26	87
11	20221CBC0008	MOHITH V PAWAR	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P	A	30	26	87
12	20221CBC0006	RJ ADITHYA YADAV	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	A	30	27	90

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Presidency University, Bengaluru

Value Added Course Marksheet

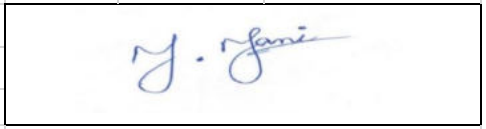
School of Engineering

Course Code :	MATV047		Academic Year :			2022-2023	
Course Name :	Singular perturbation problems		Semester :			EVEN Semester	
			Instructor-in-Charge Name :			Dr. M Manikandan	
			Instructor-in-Charge Employee ID :			PUNIV01937	

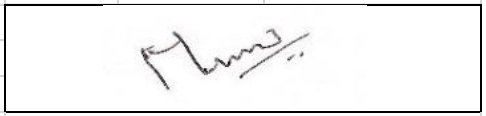
S. No	Roll No	Name	School (e.g. SoE/SoL etc)	Attendance (in %)	Marks	Eligible for Certificate (Y/N)	Remark
1	20221CBC0025	MANGALI MADHU SAHITYA	SOE	93	99	Y	
2	20221IST0039	SNEHA DEY	SOE	87	96	Y	
3	20221IST0089	PITTALA APSAR BASHA	SOE	93	83	Y	
4	20221IST0044	NAVYA M	SOE	87	88	Y	
5	20221IST0007	MALLAKALUVA HEMANTH REDDY	SOE	83	95	Y	
6	20221IST0037	VAIBHAV JONNAGADDALA	SOE	90	100	Y	
7	20221IST0047	MOHAMED AZEEM SHAIKH	SOE	97	84	Y	
8	20221IST0049	RAHUL S GOWDA	SOE	93	88	Y	
9	20221CBC0010	AKULA NAGA DIVYA DARSHINI	SOE	83	91	Y	
10	20221CBC0005	VARSHA BR	SOE	87	95	Y	
11	20221CBC0008	MOHITH V PAWAR	SOE	87	89	Y	
12	20221CBC0006	RJ ADITHYA YADAV	SOE	90	83	Y	

Name of Course Instructor : Dr. M Manikandan

Employee ID of Course Instructor : PUNIV01937



Signature of Instructor-in-Charge



Signature of HOD

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