



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

SCHOOL of ENGINEERING DEPARTMENT OF MATHEMATICS

Year: 2022-2023

Semester: 1st

Date: 10-01-2023

Course Title: Applied Statistics

Course Code: MAT1003

Type of Session: **Experimental Learning**

Instructor in Charge: Dr. Sandeep Kumar & Dr. Rajashi Chatterjee

Instructor for Section: Dr. Rajashi Chatterjee

Advanced Learner Instructor for the session: Dr. Manisha Chaudhary

Name of the Module: Descriptive statistics

Topics in the Module: Basics of R Software

Mode of Instruction: Offline

Teaching Pedagogy: Experimental learning



City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in





PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

Attendance:

Sl. No.	Student Roll No.	Name of the Student	
1	20221CAI0002	HIDA FATHIMA P H	A
2	20221CAI0010	CHANDREYI AVIJIT GHOSH	P
3	20221CAI0032	RISHABH REDDY G C	P
4	20221CAI0040	KUDUMULA PHANI KEERTHAN REDDY	P
5	20221CAI0043	ARVETI NAVYA	P
6	20221CAI0065	SARAH FAROOQUI	P
7	20221CAI0070	DEVANGAM YERRA GNANESHWAR	P
8	20221CAI0072	PRAVEEN NANDAN K	P
9	20221CAI0084	GAGANA S	P

Total Number of Eligible Students : 09

Total Number of Students Present : 08

Total Number of students Absent : 01

Learning Resources:

- **Sample Material as mentioned in the topic.**

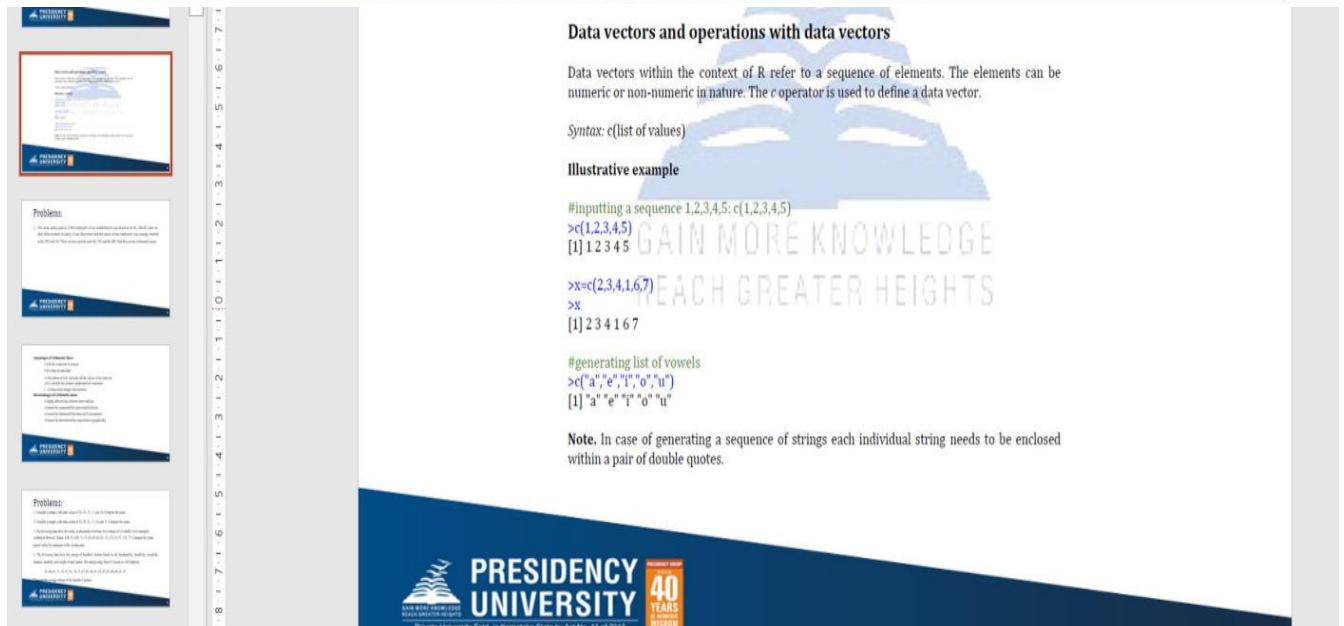
City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in





Data vectors and operations with data vectors

Data vectors within the context of R refer to a sequence of elements. The elements can be numeric or non-numeric in nature. The `c` operator is used to define a data vector.

Syntax: `c(list of values)`


Illustrative example

```
#inputting a sequence 1,2,3,4,5: c(1,2,3,4,5)
>c(1,2,3,4,5)
[1] 1 2 3 4 5

>x=c(2,3,4,1,6,7)
>x
[1] 2 3 4 1 6 7

#generating list of vowels
>c("a","e","i","o","u")
[1] "a" "e" "i" "o" "u"
```

Note. In case of generating a sequence of strings each individual string needs to be enclosed within a pair of double quotes.



Assessment:

- Type of Assessment- Coding
- Assessment Questions.
- Sample Answers by students.

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

```
7 sin(pi/3)
8 a=5+6
9 a
10 b=3*9
11 b
12 c(1,2,3,4)
13 c("a","b","c","d")
14 1:50
15 m=seq(0,50,10)
16 m
17 seq(100,10,-10)
```

The screenshot shows the R Studio environment with a script editor containing the above code. The console at the bottom is empty, and the environment pane on the right shows no objects. The system tray at the bottom indicates the date as 25-03-2022.

Remarks:

Dr. Manisha Chaudhary engaged the class on the R Programming lab with the concept of data analysis using R Programming

Year: 2022-2023

Semester: 3rd

Section: 2BCA

Date: 29-11-2022

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in

Manisha
REGISTRAR
PRESIDENCY UNIVERSITY
BANGALORE



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

Signature of Instructor:

Signature of Instructor In-Charge :

HOD - MATHS

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in





PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

**SCHOOL of ENGINEERING
DEPARTMENT OF MATHEMATICS**

Year: 2022-2023

Semester: 1st

Date: 17-10-2023

Course Title: Calculus and Linear Algebra

Course Code: MAT1001

Type of Session: Experimental learning

Instructor in Charge: Dr. Mohan S, Dr. Gopi R

Instructor for Section: Dr. S Mohan (IC), Dr. Gopi R (IC), Dr. Kavita Permi, Dr. Bhavya K, Dr. M Rajeshwari, Dr. Nagendramma V, Dr. Jagan K, Dr. Veerasha A S, Dr. A. Jasmine Benazir, Dr. Manisha Chaudhary, Dr. Babitha, Dr. Nagaraja B, Dr. Meenakshi Shivhare, Dr. Rajashi Chatterjee, Dr. Mobeen Ahmad, Dr. Biswajit Pandit, Mr. Mohammad Javeed Alam, Dr. Ashish Kumar Prasad, Dr C Muralidaran, Dr Hussain Basha, Ms. Felicita Almeida, Dr. M. Manikandan, Dr. Md. Firoj Ali.

Advanced Learner Instructor for the session: Dr. Mohan S, Dr. Gopi R, Dr. Manikandan, Dr. Jagan

Name of the Module: Linear Algebra, Partial differential equation, Integral Calculus, Ordinary differential equation

Topics in the Module: Eigenvalues and Eigen vector, Euler's theorem, Beta and Gamma functions, Higher order ODE.

Mode of Instruction: Offline

Teaching Pedagogy: Experimental learning

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

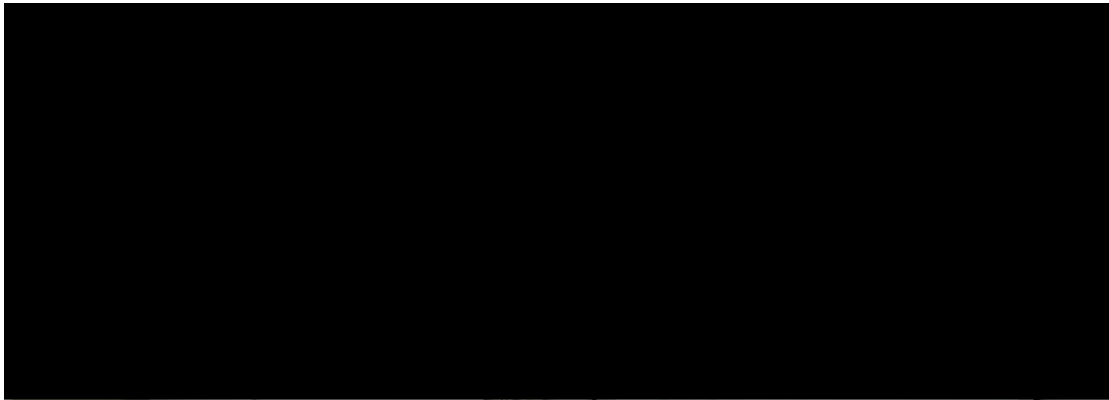
www.presidencyuniversity.in





PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013



5G9M+876, Dibbur, Karnataka 560089,
India

17 Oct 2022 03:08 PM

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in





Attendance:

Sl. No	Roll Number	Name of the Student	P/AB
1	20221CAI0002	HIDA FATHIMA P H	P
2	20221CAI0035	AINNAN HAFIZ.S	P
3	20221CAI0076	VAISHNAVI P SOORAJ	AB
4	20221CAI0004	SYED MOHAMMED UMAR	P
5	20221CAI0010	CHANDREYI AVIJIT GHOSH	P
6	20221CAI0026	SACHIN . S	P
7	20221CAI0032	RISHABH REDDY G C	P
8	20221CAI0039	Shrjanya M	P
9	20221CAI0052	KEERTHANA B	AB
10	20221CAI0063	VIKRANTH REDDY Y	AB
11	20221CAI0088	BHARGAV M N	P
12	20221COM0023	AAMNA RIFA	P

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

13	20221COM0054	RANGU VISWA TEJA	P
14	20221COM0070	CHINTHA CHANDRA VARDHAN	
15	20221COM0084	VISHNU M	
16	20221COM0094	SARADVA MANAS JITENDRABHAI	
17	20221COM0034	SUNIL KUMAR PANDAB	
18	20221COM0061	ANNABOINA VIKAS .	
19	20221COM0109	ZAID HARIS	
20	20221COM0118	AAKASH KUMAR	

Total Number of Eligible Students : 20

Total Number of Students Present : 06

Total Number of students Absent : 13

Learning Resources:

- Sample Material as mentioned in the topic.

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in



```
Menu conway.pdf Differential Equations with App... MATLAB Manualto6,8... Create Sign in
All tools Edit Convert Sign Find text or tools
Experiment No. 2: Solution of a set of simultaneous equations in matrix method
clc
clear
close all
n=input('Enter the number of equations');
m=input('Enter the number of unknowns');
disp('Enter the elements of a matrix');
for i=1:n
    for j=1:m
        A(i,j)=input(' ');
    end
end
disp('Enter the constant matrix')
for i=1:n
    c(i)=input(' ');
end
B=c'
if n~=m
    disp('The number of equations are not equal to number of unknowns hence it is not
possible to find the solution using matrix inversion method')
elseif B==0
    disp('This is an homogeneous system of equations')
disp('It has trivial solution or infinitely many other solution')
elseif det(A)==0
    disp('It is not possible to find the solution by matrix inversion method')
else
    disp('The solution is')
```

Assessment:

- Type of Assessment- Coding
- Assessment Questions.
- Sample Answers by students.

Remarks:

Dr. Gopi R engaged the class on the MATLAB with the concept of Calculus and Linear Algebra

Signature of Instructor:

HOD - MATHS

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in

REGISTRAR



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

SCHOOL of ENGINEERING DEPARTMENT OF MATHEMATICS

Year: 2022-2023

Semester: 2nd

Date: 01-06-2023

Course Title: Applied Statistics

Course Code: MAT1003

Type of Session: Experimental Learning

Instructor in Charge: Dr. Jasmine Benazir & Dr. Babitha

Instructor for Section: Dr. Jasmine Benazir

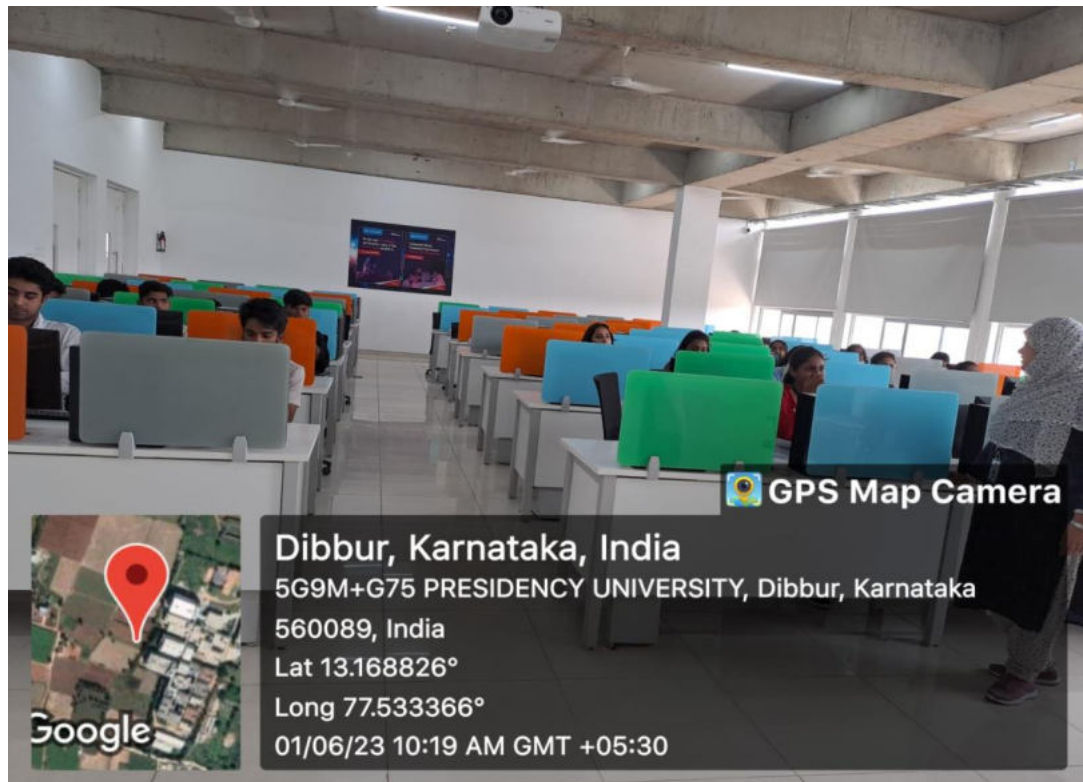
Advanced Learner Instructor for the session: Dr. Jasmine Benazir

Name of the Module: Probability distribution

Topics in the Module: Binomial distribution

Mode of Instruction: Offline

Teaching Pedagogy: Experimental learning



City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 **Email ID:** info@presidencyuniversity.in

www.presidencyuniversity.in





PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

Attendance:

Sl. No.	Student Roll No.	Name of the Student	
1	20221IST0023	G DHANUSH	P
2	20221IST0024	K ARUL MURUGAN	P
3	20221IST0025	BHAVANIPRASAD REDDY S S	P
4	20221IST0026	SANDHYA M	P
5	20221IST0027	THIRUVARASU S	P
6	20221IST0028	NANDANA P S	P
7	20221IST0029	S SETHURAM	P
8	20221IST0030	S VIGNESH	P
9	20221IST0023	G DHANUSH	P
10	20221IST0031	ADITHI K	P
11	20221IST0032	MOHAMMED FAHEEM NAWAZ ALI S A	P
12	20221IST0033	DEVIKA S	P
13	20221IST0034	MOUNIKA M	P
14	20221IST0035	MANJUNATHA S	P
15	20221IST0036	VARSHA B	P
16	20221IST0037	VAIBHAV JONNAGADDALA	A

Total Number of Eligible Students : 09

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in



Total Number of Students Present : 16

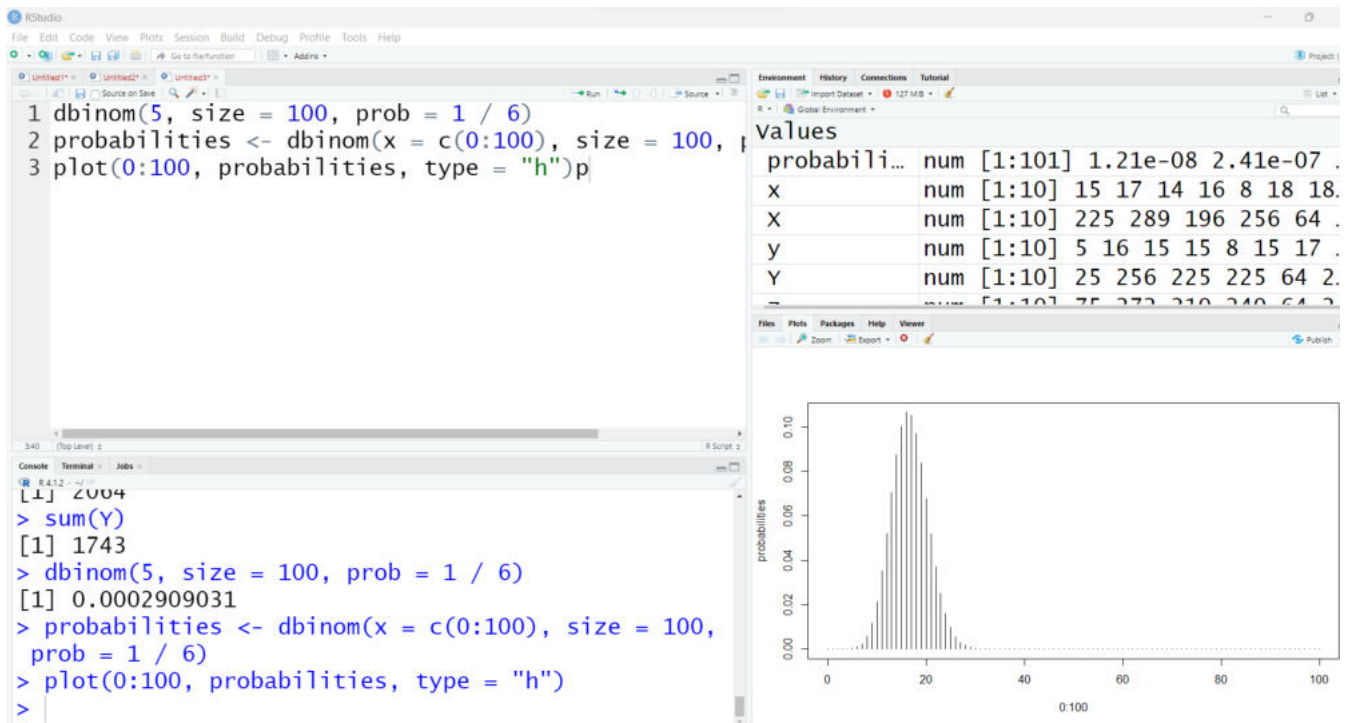
Total Number of students Absent : 01

Learning Resources:

- Sample Material as mentioned in the topic.

Assessment:

- Type of Assessment- Coding
- Assessment Questions.
- Sample Answers by students.



Remarks:

Dr. Jasmine Benazir engaged the class on the R programming with the concept of data analysis.

Year: 2021-2023

Semester: 2nd

Section: B.Tech

Date: 01-06-2023

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

Signature of Instructor:

Signature of Instructor In-Charge :

HOD - MATHS

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in





PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

zSCHOOL of ENGINEERING DEPARTMENT OF MATHEMATICS

Year: 2022-2023

Semester: 4th

Date: 18-05-2023

Course Title: Numerical Methods for Engineer

Course Code: MAT2003

Type of Session: Experimental Learning

Instructor in Charge: Dr. Nagendramma V & Dr Kavita S Permi

Instructor for Section: Dr. Kavita S Permi

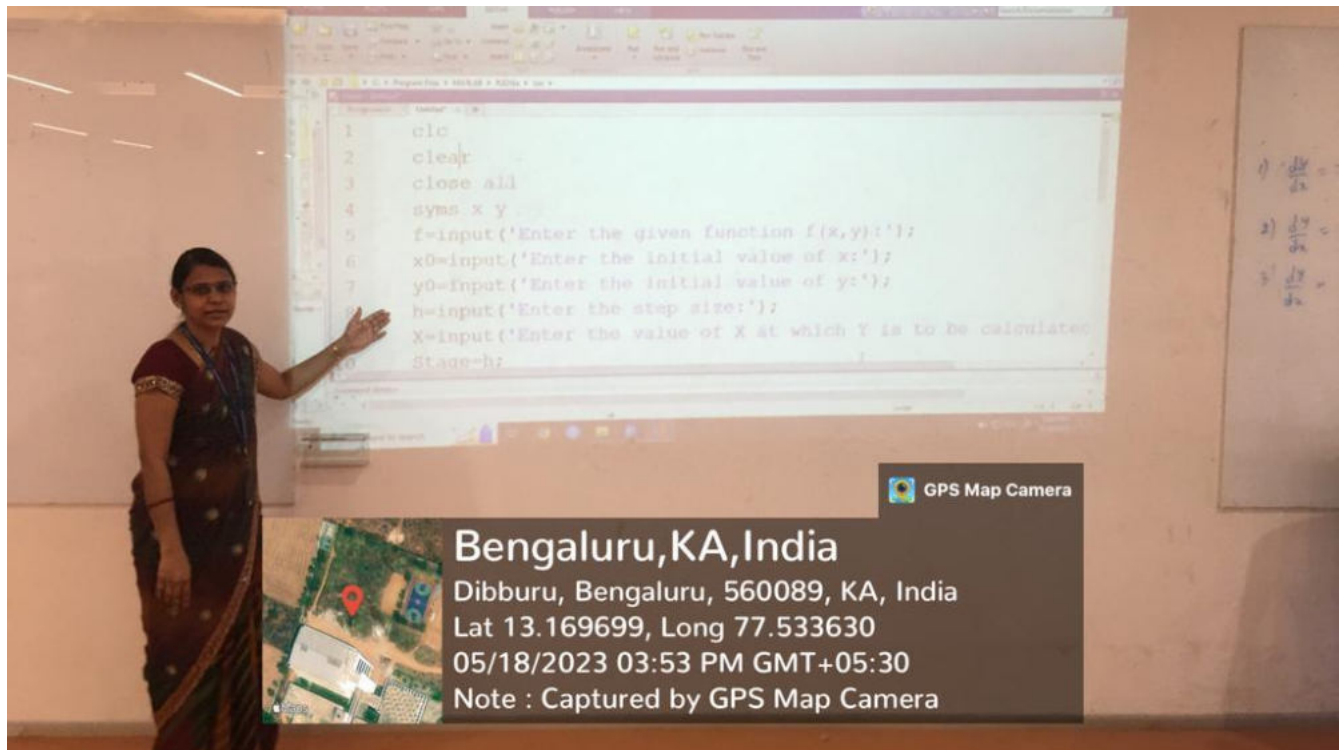
Advanced Learner Instructor for the session: Dr. Kavita S Permi

Name of the Module: Interpolation, Numerical differentiation and Numerical Integration

Topics in the Module: Numerical Integration

Mode of Instruction: Offline

Teaching Pedagogy: Experimental learning



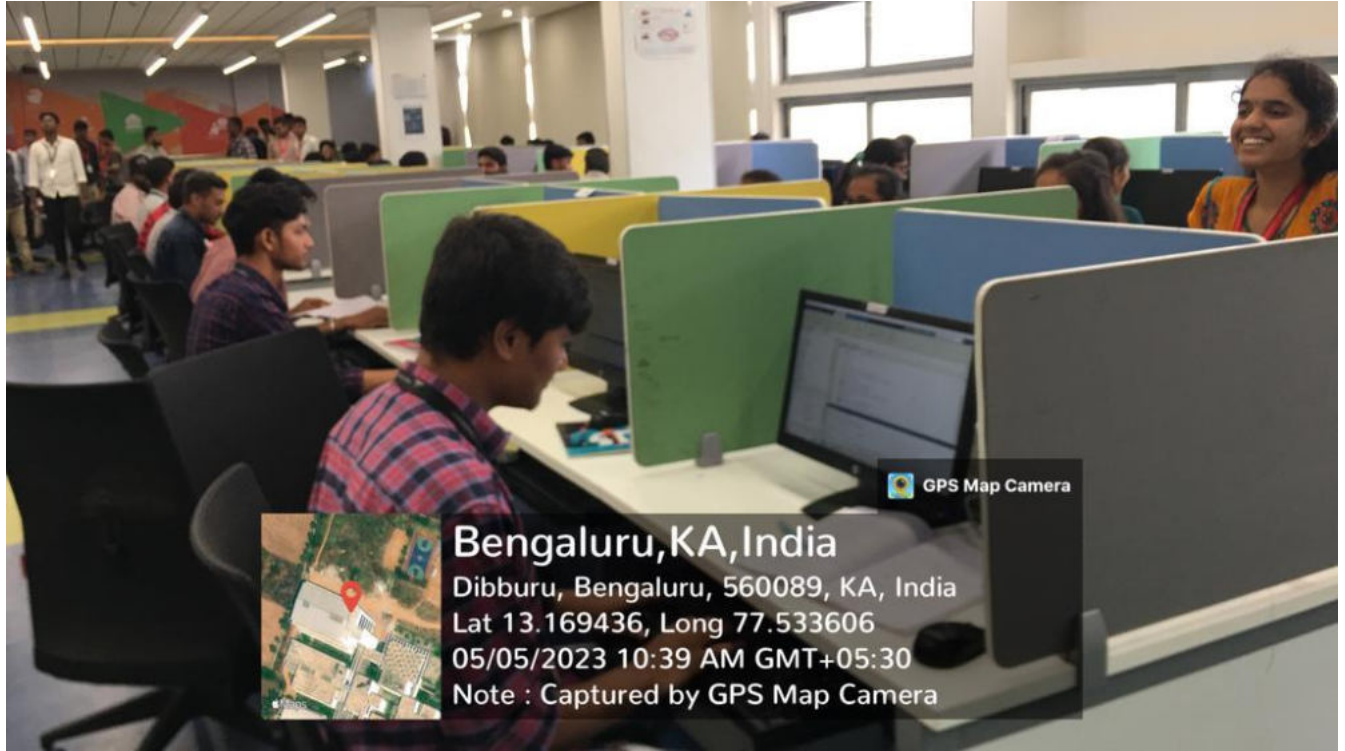
City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 **Email ID:** info@presidencyuniversity.in

www.presidencyuniversity.in





Attendance:

Sl. No	Roll Number	Name of the Student	P/AB
1	20211CSE0059	LINGUTLA RACHANA	P
2	20211CSE0129	MUDAHADU PREETHI	P
3	20211CSE0131	NEERUKONDA DURGA PRASAD	AB
4	20211CSE0143	GADDAM JAHNAVI	P
5	20211CSE0152	G LAHARI	P
6	20211CSE0153	TATINENI LEELA PHANINDRA	P
7	20211CSE0165	KHASAB ADIL AHAMED	P

Total Number of Eligible Students : 07

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

Total Number of Students Present : 06

Total Number of students Absent : 01

Learning Resources:

- Sample Material as mentioned in the topic.

Experiment No. 8: Evaluation of integral by Trapezoidal rule, Simpson's $\frac{1}{3}$ rule and Simpson's $\frac{3}{8}$ rule

Problem: Write a MATLAB code for evaluating $\int_0^1 \frac{1}{1+x^2} dx$ using Trapezoidal rule, Simpson's $\frac{1}{3}$ rule and Simpson's $\frac{3}{8}$ rule and record the output.

```
clc
clear all
f=@(x) 1/(1+x.^2);
a = input('Enter lower limit a:');
b = input('Enter upper limit b:');
n = input('Enter no. of subintervals n:');
h = (b-a)/n;
i = 1:n-1;
S = f(a)+h;
out = (h/2)*(f(a)+2*sum(S)+f(b));
fprintf('The value of integration is %f\n',out);

% Simpson 1/3rd Rule
Se = sum(S(2:n-1));
So = sum(S(1:2:n-1));
simout = (h/3)*(f(a)+f(b)+4*So+2*Se);
display('Simpson's 1/3rd Rule')
fprintf('The value of integration is %f\n',simout);

% Simpson 3/8th Rule
k=3:3:n-1;
S3 = sum(S(3:3:n-1));
Sre = sum(S)-S3;
sout = (3*h/8)*(f(a)+f(b)+2*S3+3*Sre);
display('Simpson's 3/8th Rule')
fprintf('The value of integration is %f\n',sout);

Output
```

Assessment:

- Type of Assessment- Coding
- Assessment Questions.
- Sample Answers by students.

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in





PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

```
1 - clc
2 - clear all
3 - f=@(x) 1./(1+x);
4 - a = input('Enter lower limit,a:');
5 - b = input('Enter upper limit,b:');
6 - n = input('Enter no. of subintervals,n:');
7 - h = (b-a)/n;
8 - i = 1:n-1;
9 - S = f(a+i.*h);
10 - out = (h./2).*(f(a)+2.*sum(S)+f(b));
11 - fprintf('The value of integration is %f\n',out);
12
13 %Simpson 1/3rd Rule
14 Se =sum(S(2:2:n-1));
15 So = sum(S(1:2:n-1));
16 simout = (h/3).*(f(a)+f(b)+4*So+2*Se);
17 display('Simpson''s 1/3rd Rule')
18 fprintf('The value of integration is %f\n',simout);
19
20 %Simpson 3/8th Rule
21 k=3:3:n-1;
22 S3 = sum(S(3:3:n-1));
23 % S(k) = [];
24 Sre =sum(S)-S3;
25 sout = (3*h/8).*(f(a)+f(b)+2*S3+3*Sre);
26 display('Simpson''s 3/8rd Rule')
27 fprintf('The value of integration is %f\n',sout);
```

Remarks:

Dr. Kavita S Permi engaged the class on the MATLAB with the concept of Numerical Integration

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in

Sanne
REGISTRAR



PRESIDENCY UNIVERSITY

Private University Estd. in Karnataka State by Act No. 41 of 2013

Signature of Instructor:

Signature of Instructor In-Charge :

HOD - MATHS

City Office: University House, 8/1, King Street, Richmond Town, Bengaluru - 560025

Campus: Presidency University, Itgalpur, Rajankunte, Bengaluru - 560064

Phone: + 80 4925 5533 / 5599 Email ID: info@presidencyuniversity.in

www.presidencyuniversity.in

