

Mechanical Engineering Department

Academic Year – 2020-2021	Class: Third Year
Semester – II	Date : 29/05/2021 TO 12/06/2021
CO1,CO2,CO4,CO5,CO6	PO1,PO5,PO9,PO12

Innovative Teaching Methods

Title of Innovation method/activity: Project Based Learning

1. Name of Faculty: Mr.D.D.Kulkarni

2. Subject: Numerical Methods and optimization

3. Objective of Method:

1. Make the students familiar with basic concepts and techniques of Matlab programming.
2. Develop an ability to write programs in Scilab and GNU octave for problem solving

4. Topic Covered through Activity:

Roots of equation, Simultaneous equation, Ordinary Differential Equations, Curve Fitting and Regression Analysis, Numerical Integration

5. Description of method with Benefits (8 – 10 lines):

Students work on a project over an extended period of time that engages them in solving a problem. They demonstrate their knowledge and skills by creating a public product or presentation for a real audience.

As a result, students develop deep content knowledge as well as critical thinking, collaboration, creativity, and communication skills. Project Based Learning unleashes a contagious, creative energy among students and teachers.

The method:

1. An assigned task /activity is completed by a single students.

2. When student finish their project, the teacher checks each student's final work.
3. Teacher will check whether code is running completely /partially /some errors present.
4. Teacher take oral to check student has understood the concept of project.

Roles and Responsibilities

• Teacher

- Provide the Introduction to the entire topic.
- Aware the student about the length, Breadth, Depth of Topic
- Provide the Study Material and appropriate guide lines at every stage
- Remain available all the time during all stages of process.
- Prepare assessment methodology.

• Student

- Go through all the material provided on particular topic
- Once topic assigned understand and gain expertise on topic through collaboration.
- Actively participate and contribute by means of discussion, hand-out

6. Assessment Tools & Rubrics:

1. Content Knowledge [3 Mark]

- Demonstrate knowledge by answering all questions with explanation and elaboration.

2. Code Readability [3 Mark]

- All Required comments are present.
- The program is correctly indented and identifiers are selected

3. Individual Work [2 Mark]

- Everyone is fully engaged with effective an idea.

4. Delivery [2 Mark]

- The program was delivered on time

Criteria	Excellent -3	Good -2	Average-1
Content Knowledge	Demonstrate knowledge by answering all questions with explanation and elaboration.	Is at ease with expected answer to all questions without elaboration.	Student answers partially. Student is able to answer only rudimentary question
Code Readability	All Required comments are present, the program is correctly indented and identifiers are selected	Some required comments are missing, or identifiers are inappropriate or statements are not correctly indented	Program is minimally commented; some identifiers are inappropriate or inconsistent indentation.
Team Work	Everyone is fully engaged with effective exchange of idea.	Some people were cooperating, but some people were not. One person did all the work.	No cooperation. Team members did their own thing
Delivery`	The program was delivered on time	The program was delivered within a week of the due date	The code was within 2 weeks of the due date

7. Evaluation Sheet

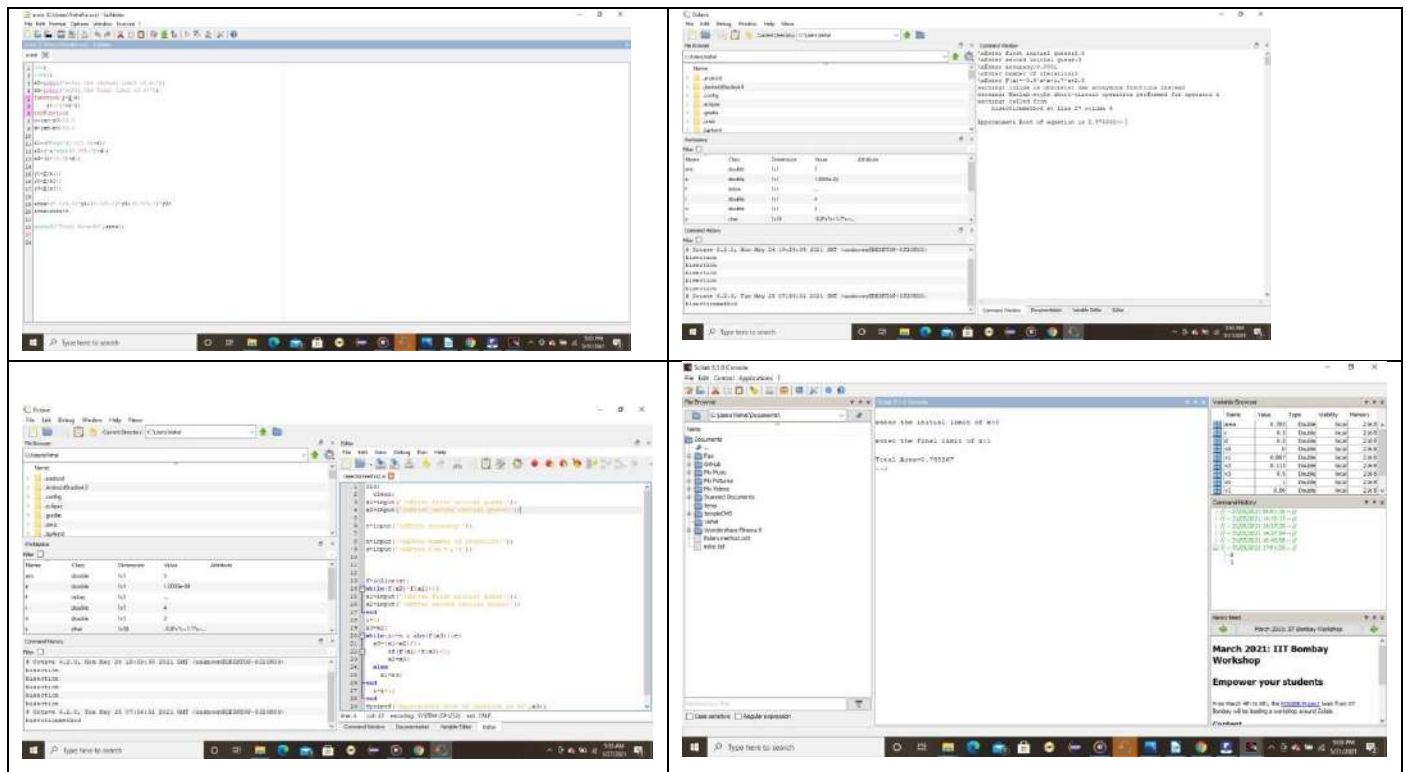
Roll No.	Name of Students	Marks	Software used
81	MOGAL MADHURA AJAY	8	GNU octave
82	MORE BHUSHAN NAMDEV	7.6	GNU octave
85	NAIR ABHISHEK AJITHKUMAR	8	GNU octave
86	NAKIL SANKET DATTATRAY	7.6	GNU octave
88	PACHPUTE ATHARVA RUPESH	8	GNU octave
89	PAGAR AJINKYA DILIP	7.6	GNU octave
94	PATIL KAMESH JITENDRA	8	GNU octave
95	PATIL MAYUR VASUDEO	7.6	GNU octave
96	PATIL RAJWARDHAN SUNIL	8	GNU octave
99	PATIL SAURABH CHHOTU	7.6	GNU octave
100	PATIL SHUBHAM KIRAN	8	GNU octave
101	PATIL SOHAM ARUN	5.2	Scilab
102	PATIL VAIBHAVI SURESH	8.4	GNU octave

103	PATIL VISHESH BHAUSAHEB	8	GNU octave
105	PAWAR VAIBHAV SANJAY	8.8	GNU octave
107	PUND KARAN KAILAS	8	GNU octave
110	RANADE ADITYA SHIVAJI	8.8	GNU octave
111	RAVTALE NILESH PRALHAD	8.4	GNU octave
112	ROTE PRATIK RAOSAHEB	8	GNU octave
113	SALUNKE DARSHAN PRAMOD	8	Scilab
114	SALUNKE YASHWANT DEVIDAS	4.8	GNU octave
115	SANAP GAURAV SHARAD	8	GNU octave
116	SANGALE VIVEK RAMDAS	8.4	GNU octave
117	SAVALE AVINASH RAGHUNATH	8	Scilab
118	SAWANT RISHIKESH PRAKASH	8.4	GNU octave
120	SHINDE HARSH SUNIL	8	Scilab
122	SHINDE KARAN SANDEEP	8	GNU octave
123	SHINDE ROHIT RAJU	8.4	GNU octave
125	SHINDE UJWALA MAHESH	8	GNU octave
128	SHIRSATH PRIYANKA DHONDIRAM	8	GNU octave
131	THAKARE ABHISHEK RAMESH	8	GNU octave
132	THAKARE ANJALI NANDAKUMAR	8	GNU octave
133	THAKUR ADARSH SANJAY	7.6	GNU octave
135	THETE VINAY RAJENDRA	7.6	GNU octave
136	THOK NIKITA KAILAS	5.2	Scilab
137	TONGARE OMKAR KAILAS	8	GNU octave
143	ZOPE AKSHAY SANJAY	8	GNU octave
144	MUNDANE HARSHAL SUKHDEV	8	GNU octave
146	PATIL SAMEER SANJAY	8	GNU octave
151	SHINDE YUGANDHAR RAVINDRA	7.2	GNU octave
152	TAKATE DHIRAJ MANIK	7.6	GNU octave

8. Impact Analysis

SN	3- High/Excellent	2- Good	1-Average
1. Do you find Methodology Helpful?	7	29	27
2. Does this helps for building a good team	9	31	23
3. Were you able to apply the concept of Matlab while implementing project?	8	31	24
4. Does the content covered are relevant	25	27	11
5. Would You Like To Participate in This Methodology again?	YES :40	No: 02	Maybe:21

9. Activity Picture



10. For review and critique contact: e-mail address of faculty and HOD

kulkarni.darshan@kbtcoe.org, hod.mech@kbtcoe.org



Prof. D. D. Kulkarni
Subject In charge



Dr. S. P. Mogal
Module Coordinator



Dr. A.B.Kakade
NBA Coordinator



Dr. V.C.Shewale
HoD