### JSPM's

# Rajarshi Shahu College of Engineering, Pune Department of Electronics & Telecommunication Engineering

### INNOVATIONS IN TEACHING AND LEARNING

Subject: Signals & Systems Class: S.Y. BTech E&TC

**Topics:** Continuous and discrete-time signals, LTI systems, Signal operations,

Convolution, sampling, correlation, statistical parameters

### NAME OF THE ACTIVITY: Matlab Simulator

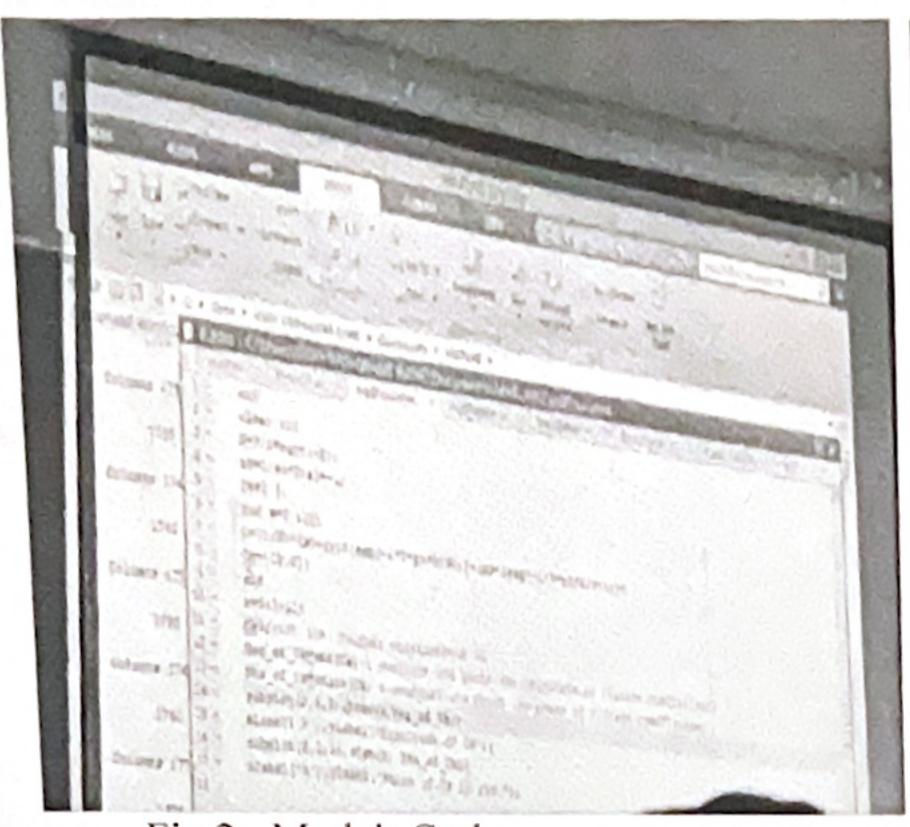
- Concept: MATLAB simulator is crucial for engineers and scientists because it allow for the creation and analysis of complex systems in a virtual environment before physical implementation.
- Η. Objective (Goal): Understand the concepts of Signals & Systems on virtual platform.
- Appropriateness (Relevance of Selected Method): Signals and Systems is a heavy subject Ш. dealing with multiple mathematical concepts. These concepts are abstract and really heavy on mathematical visualization. Virtual platform like Matlab can enhance concepts understanding since it is interactive tool.

#### Effective Presentation (Implementation Details): IV.

After completion of particular concept in the class, same concept is explained to students through the Matlab code and respective output in theory sessions itself. Students are asked to practice on the same topic with different signals. The Matlab tutorials solved by students are uploaded on ERP platform and the weight of 5 marks is given for insemester evaluation.



Fig.1 Concept explanation through Matlab coding





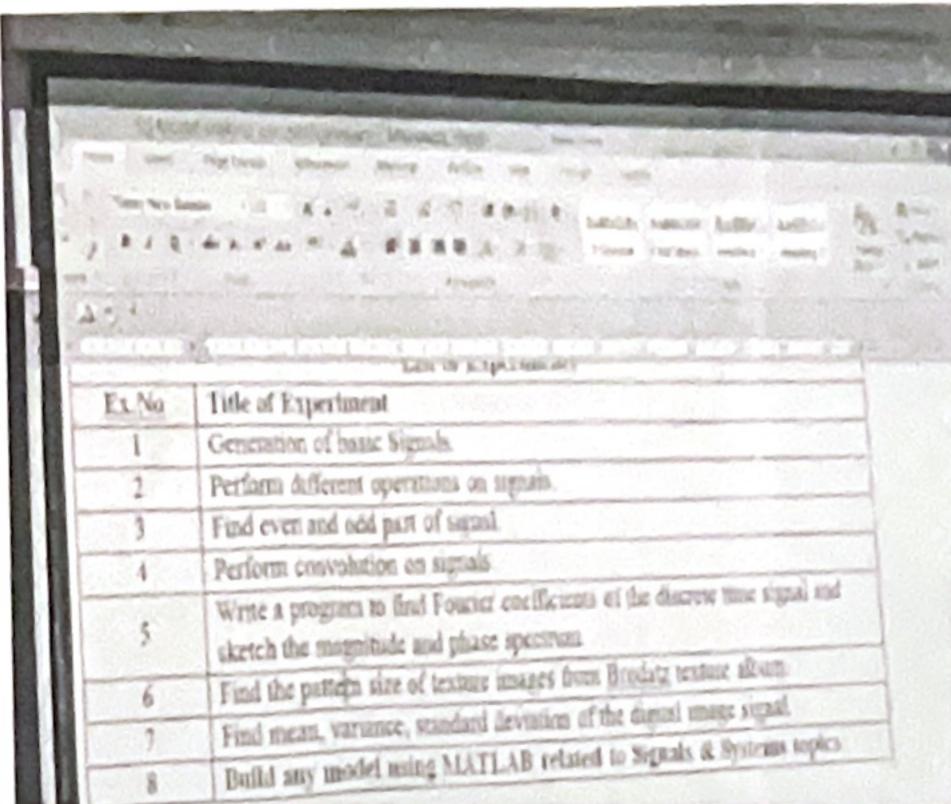


Fig.3 List of topics discussed using Matlab

Video for preparation: 'Getting started with Matlab 'by Dr.Rane C.V.

YouTube Link:- <a href="https://youtu.be/c-EJn3whdvc">https://youtu.be/c-EJn3whdvc</a>

### V. Results (Impact):

- A. This activity inculcates the habit of self learning among students.
- B. Encouraged students to involve in activity since the tool is interactive..
- C. Understanding of concepts through practical approach.

## VI. Reproducibility and Reusability by Other Scholars for Further Development

				D
				Reproducibility and Reusability
St	udents of second	52 COF	E4TC	Solved matlab tutorials of
	ear r			subject signals 4 systems.
2 St	udents of	RECOF	ELTL	used this knowledge for.
- t	Students of RSCOE third year		Used this knowledge for.  DSP practicals, preject work.	

## VII. PEER REVIEW AND CRITIQUE

NAME OF THE ACTIVITY: Matlab Simulator

Category: Internal/External/Interdepartmental

Score: (1:Least 2: Moderate 3:Highly)

Question 1.1s this Innovative Teaching and Learning Methodology useful during content delivery?

Question 2. Did this innovation increase student motivation or participation?

Question 3. Will it show improvement in student learning?

Question 4. Suggestions for improvement in future iterations.

Category	Name of Peer	Organiza tion	Q.1	Q.2	Q.3	Q. 4 Suggestion/Critique
Interal	Swappalle	RSIDE	3	2	2	should be more
External	M.s. Væna Kulkanni	PCCOE	3	3	2	Good initiative. Give flavor of simulink also
Externe	Dr. M. Rajant	DYPOE	3	2	2	As SS is mathematical signal op can be visualise strags mallab

Course Co-ordinator Dr.Rane Charushila Vijay

Module Co-ordinator Dr.Rane Charushila Vijay

HOD E&TC Dr.S.C.Wagaj: