DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

SKILL ENHANCEMENT PROGRAMME (SEP)

Skill Enhancement Course Name:	**NI LabVIEW and MATLAB**		
Name of the Faculty:	**RAMYA S RAJAN , MONICA K M**		
Sem & Sec:	**III**	**Total No. of Students in class:**	**33+27**
No. of Modules:	**5**	**No of Students attended:**	**33**
Aspiration Form taken	**Yes/No (If Yes please attach Aspiration Form) Yes**		

No. of Classes Planed	**5+5 (of Duration 2 hrs each)**
No. of Classes handled	**5+5**
PO's/PSO's mapped	**PO1, PO2,PO3,PO5,PO9,PO10**
PEO's Mapped	**PEO1**

Modules Covered

Sl. No.	Module	Module Details	Date
1.	1	Introduction to Lab VIEW, ADVANTAGES OF Lab VIEW SOFTWARE ENVIRONMENT Front Panel Windows Block Diagram Windows Icon/Connector Pane CREATING AND SAVING A VI FRONT PANELTOOLBAR BLOCK DIAGRAM TOOLBAR PALETTES Tools Palette Front Panel—Controls Palette, DATA TYPES -Types Block Diagram—Functions Palette PROPERTY DIALOG BOXES FRONT PANEL CONTROLS AND INDICATORS BLOCK DIAGRAM -Terminals Nodes Functions ,SubVIs, Wires	12/11/2022
2.	2	MODULAR PROGRAMMING in Lab VIEW-BUILD A VI FRONT PANEL AND BLOCK DIAGRAM ICON AND CONNECTOR PANE CREATING AN ICON BUILDING A CONNECTOR PANE	26/11/ 2022
3.	3	REPETITION AND LOOPS Introduction-FOR LOOPS WHILE LOOPS STRUCTURE TUNNELS -TERMINALS INSIDE OR OUTSIDE LOOPS SHIFT REGISTERS-Initializing Shift Registers Stacked Shift Registers Replacing Tunnels with Shift Registers Replacing Shift Registers with Tunnels	17/12/ 2022
4.	4	ARRAYS- Introduction, ARRAYS IN Lab VIEW CREATING ONE/TWO/MULTI-DIMENSIONALARRAY CONTROLS, INDICATORS AND CONSTANTS,INITIALIZING ARRAYS,ARRAY FUNCTIONS,AUTO INDEXING CLUSTERS-Introduction, CREATING CLUSTER CONTROLS AND INDICATORS,CONSTANTS,CLUSTER OPERATIONS	24/12/2022
5.	5	PLOTTING DATA- Introduction, TYPES OF WAVEFORMs-WAVEFORM GRAPHS, WAVEFORM CHARTS,GRAPHS STRUCTURES-CASE STRUCTURES, SEQUENCE STRUCTURES Flat Sequence Structure, Stacked Sequence Structure ,Using Sequence Structures, TIMED STRUCTURES-Timed Loop Structure FORMULA NODES-Using the Formula Node, Creating Formula Nodes, Formula Node Syntax	28/01/2023

NI LabVIEW

Module-1

- **Basics of MATLAB** – Introduction, Tools Set, Basic Operations, Command Sets

Module-2

- **Basics of Simulink**- Modelling, categories of Modelling, Applications

Module-3

- **General Applications of MATLAB-** Matrix operations- Arithmetic & Logical, Waveform Generations- Square, Triangular, Sinusoidal, Trapezoidal, Saw-tooth, Cosine Waves

Module-4

- **MATLAB Applied to EEE Circuits**- Programming EEE AC and DC Circuits

Module-5

- **Simulink Applied to EEE Circuits**- Simulate R, RL,RC,RLC Circuits(Series & Parallel), Design RLC Circuits for Series & parallel Resonance

MATLAB

Student Learning outcomes for Skill Enhancement Course

At the end of the Course the students will be able to

CO1: Apply the concepts of modern tools to solve basic problems

CO2: Analyze the open ended problems using the modern tools

CO3: Design the Electrical & Electronics circuits using the modern tools

Details of MOOC Course of Skill Enhancement Course

Sl.No	Name of the MOOC Course	Name of the Certifying Agency	No. of Students registered	No. of Students Certified
	NA			

Feedback- Post Assessment of Skill Enhancement Course

Are you aware that LabVIEW and MATLAB can be used as a computational tool for solving problems related to Electrical Circuits?

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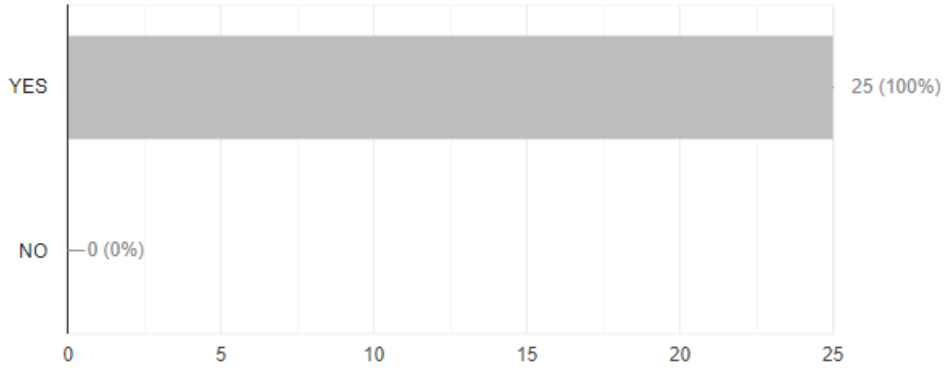

Are you able to "UNDERSTAND" Which licence type does a LabVIEW and MATLAB belong to? if so, select the correct answer.

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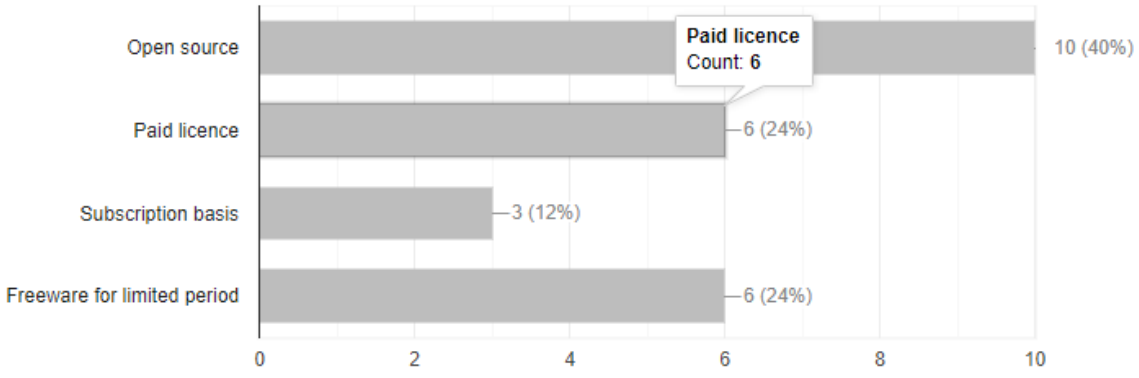

Are you able to "APPLY" the fundamental concepts of Electrical Circuits to perform suitable experiment using LabVIEW and MATLAB ?

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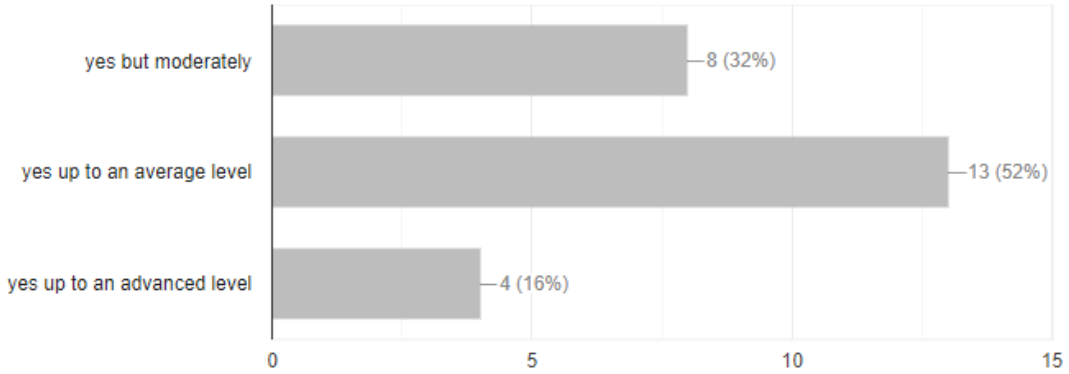

Are you able to "ANALYSE" the Electrical Circuits to write suitable Programs using LabVIEW and MATLAB?

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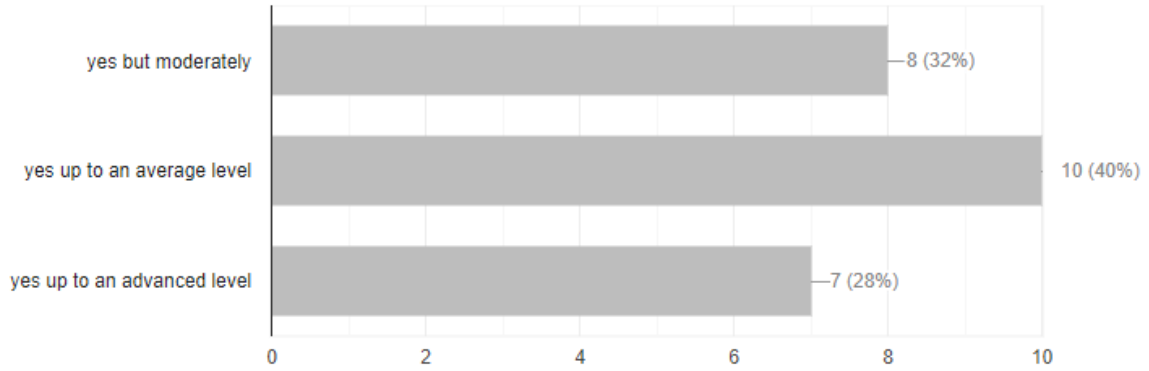

Can you "EVALUATE" the performance of the Electrical Circuits using LabVIEW and MATLAB ?

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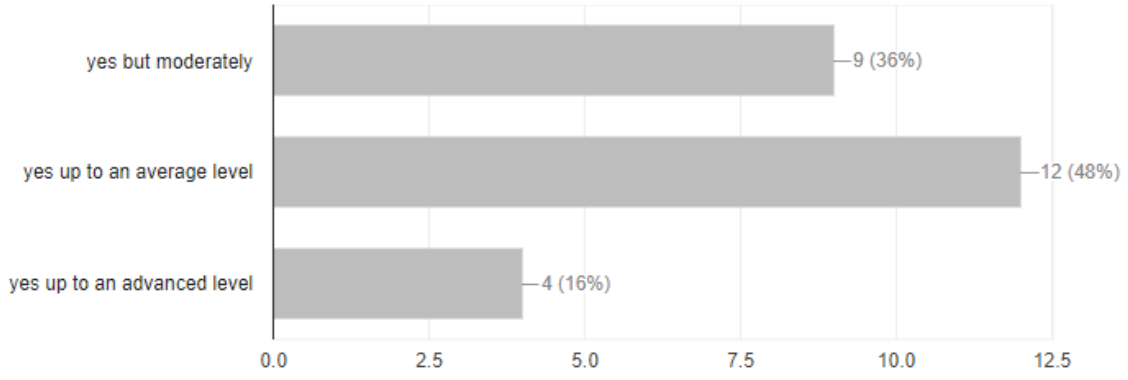

Will you be able to "CREATE", communicate and conclude the project done using LabVIEW and MATLAB?

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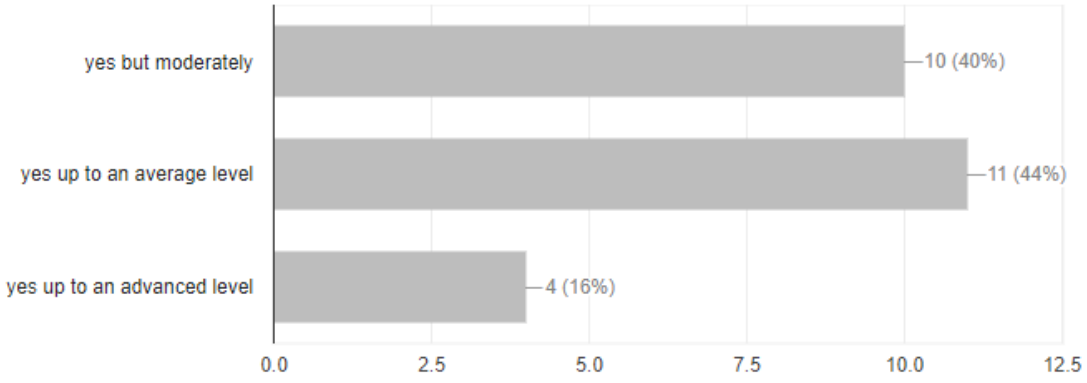
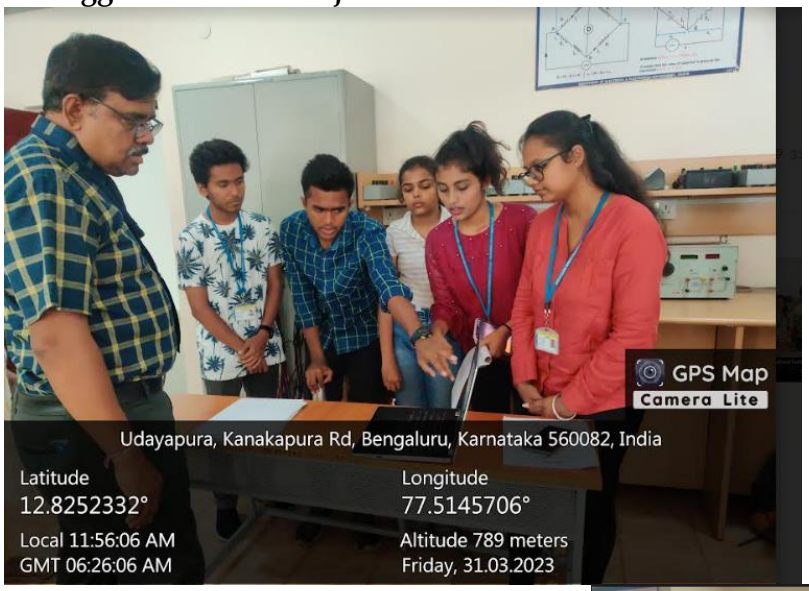
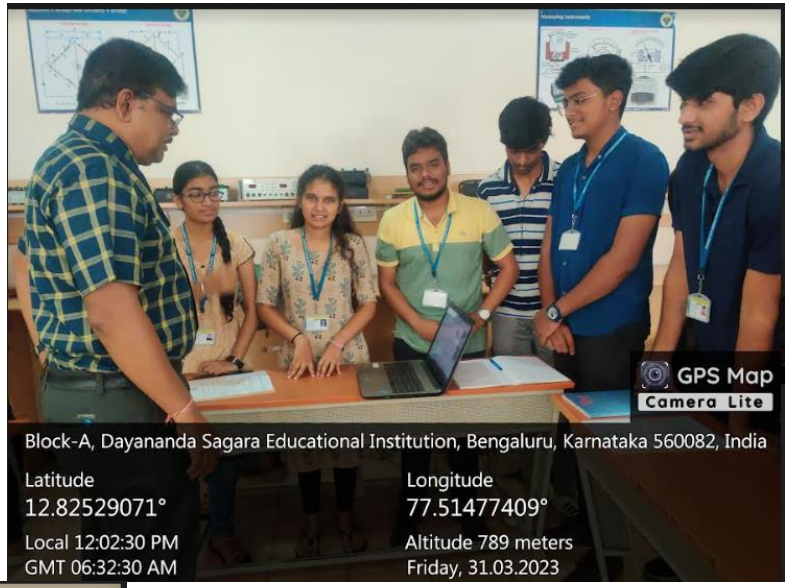


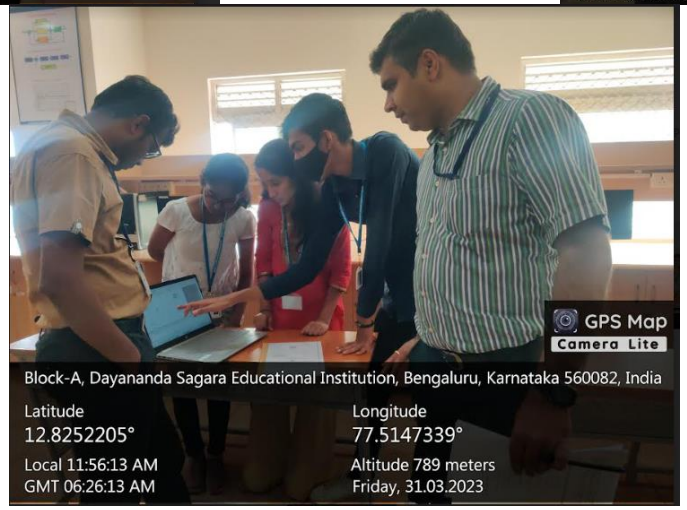
Rubrics for assessing the Students on Higher Order Thinking Skills

	Particulars	Marks(M)	Good	Average	Poor
a	Analysis and Design	10	•Division of problem into modules and good selection of frame work with appropriate design.(9-10)	• Division of problem into modules and good selection of computing frame work and not properly designed.(6-8)	•Division of problem into modules but inappropriate selection of computing framework and design Methodology. (5-0)
b	Implementation	10	•All objectives of the proposed work are well defined; Steps to be followed to solve the defined problem are clearly specified.(9-10)	• Incomplete justification to the objectives proposed; Steps are mentioned but unclear; without justification to objectives.(6-8)	•Objectives of the proposed work are either not identified or not well defined; Incomplete and improper specification. (5-0)
c	Demonstration of the Project Work	10	•Objectives achieved as per time frame. Contents of presentations are appropriate and well arranged.(9-10)	•Objectives achieved as per time frame .Contents of presentations are appropriate but not well- arranged.(6-8)	•Objectives achieved are not as per time frame Contents of presentations are not appropriate and neither not well arranged.(5-0)
d	Presentation	10	•Proper eye contact with audience and clear voice with good spoken language.(9-10)	•Satisfactory demonstration, clear voice with good spoken language but eye contact not proper. (6-8)	•Presentation not satisfactory and average demonstration.(5-0)

Geotagged Photos of Project Exhibition







Signature of the Faculty

Signature of HOD