Maratha Vidya Prasarak Samaj's

Karmaveer Adv. Baburao Ganpatrao Thakare
College of Engineering, Nashik

Permanently Affiliated to Savitribal Phule Pune University
5 Programs are Accredited By National Board of Accreditation (2022-2025)

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STRONG EDUCATIONAL FOUNDATION TO ADVANCE YOUR CAREER

Department of Electronics & Telecommunication Engineering

NOTICE

Date: 14.07.25

Subject: Implementation of "Experimental learning Method" in Network Theory course.

Dear Students,

This is to inform you that, in this semester the Experimental learning Method (ELM) will be introduced in Network Theory course AY 2025-26 SEM-I, for the topic Norton's theorem & Maximum Power Transfer theorem, as part of our continuous evaluation process across selected topics. ELM emphasizes student-led exploration, critical thinking, and problem solving. Instead of traditional teaching, students will participate in discussions to demonstrate their comprehension. You are advised to become part of ELM. I will instruct you all to comprehend the approach, organization, and expectations, as well as the assessments and rubrics.

Look forward to your active participation and unique contributions.

Use the rubrics below to assess your activity participation.

Rubrics	3 (High) 2M	2 (Moderate) 1.5M	1 (Low) 1M
1. Hands-on Experimentation	Accurately builds and sets up circuit; operates instruments independently and correctly	Builds circuit with minor errors; operates instruments with some guidance	Builds circuit but requires frequent help; struggles with instruments
2. Circuit Construction	Circuit built correctly with neat layout; uses tools effectively	Minor connection or setup issues	Frequent errors or incorrect setup
3. Prediction & Hypothesis (10)	Accurate predictions with reasoning linked to theory	Reasonable predictions; minor logic gaps	Vague or inaccurate predictions; no explanation
3. Analysis & Interpretation	Thoroughly analyzes data; correctly interprets circuit parameters; explains discrepancies	Analyzes data correctly with minor errors; interprets parameters adequately	Basic data analysis; limited interpretation of results
4. Teamwork & Collaboration	Works collaboratively, and supports team members effectively.	Works well in a group, but with occasional imbalance in roles.	Participates but with minimal engagement; depends on others.
5. Communication & Delivery	Communicates findings clearly and professionally engaging answers.	Information is mostly clear; structure and delivery are satisfactory.	Basic clarity, but answers are unclear.

Mr. A. R. Chaudhari
Course Teacher

Roll No	Name	Sign	Roll No	Name	Sign
1	Aher Yash Manoj		34	Khode Samruddhi Chandrakant	Khode
2	Ahire Harshal Kailas	hks	35	Kokate Akanksha Shahaji	
3	Andhalkar Sneha Nitin	Nehar	36	Mahakale Suraj Sunil	mahak
4	Anjarkar Ashlesha Arun	AMujarka	37	Mandalik Soham Sandip	mandalik
5	Apsunde Sumit Subhash		38	More Vaishnavi Vijay	Omore
6	Bachhav Ritesh Pravin		39	Nigal Shirpad Rajendra	
7	Bari Kartik Ganesh		40	Nikam Shantanu Santosh	Shinkan
8	Bhope Deepesh Umesh		41	Otari Harshal Vishvanath	Ofaj
9	Bochare Vaishnavi Vijay	Both	42	Padol Shraddha Ravindra	Padol
10	Borade Kanchan Samadhan	Borade	43	Pagare Sushil Dattu	gus
11	Boraste Anushka Pradeep	Boraste	44	Patil Aditya Rajendra	Aditya
12	Chaudhari Mayur Dnyaneshwar	Rayc	45	Pawar Bhoomi Sunil	Baws
13	Chinchore Ishaan Sudeep		46	Pawar Krishna Ishwar	pawar
14	Datir Asmita Sampat	Asmita	47	Pawar Roshan Narayan	Pawar
15	Deore Aditya Sanjay	Aduj	48	Pawar Shreyasi Walmik	mup
16	Deore Manish Lalit	Mish	49	Pingale Vedant Mukund	
17	Dhabale Priti Bhausaheb	Dhabale	50	Rathod Harshad Anil	
18	Dhatrak Rutuja Popat	Phatrak	51	Sahane Vaishnavi Dnyaneshwar	Wsahane
19	Dhole Tushar Bharat	Atraj	52	Satpute Yuvraj Santosh	Yp
20	Dhumal Ishwari Santosh	Dhumal	53	Sawant Kalyani Ganesh	Sawant
21	Dosani Adnanmohamad Arif		54	Shetty Aditi Devadas	
22	Fulmali Dhiraj Gorakhnath		55	Shinde Prachi Pundlik	Shinde
23	Gadhave Janhvi Purushottam	Gadhave	56	Surwade Abhijit Narayan	
24	Gaikawad Nikita Rajendra	Nikikwa	57	Tidake Aarti Sandip	Tidak
25	Gangode Shivanjali Sunil	Sgangode	58	Tiwari Aditi Dhiraj	Tiwari
26	Gavate Shravani Vasant		59	Ughade Sahil Gopal	
27	Gholap Avinash Suresh	Avinash	60	Wadettiwar Nirmal Dilip	Quul
28	Girase Rohit Jitendra	Rirase	61	Wadghule Radhika Suresh	
29	Gujar Vaibhav Jalindar	Qa	62	Wagh Priyadarshini Tukaram	Rrb
30	Jadhav Anushka Harish		63	Wagh Rajashree Vikas	Rwagh
31	Jadhav Nilesh Dattatray	Nilsb	64	Wani Manasvi Dhiraj	Wani
32	Kabade Shivani Shrikrishna	Kabade	65	Yeole Aayush Anant	
33	Khalkar Gauri Changadev	Khalkar	68	Rinku Ahire	Ahire
			71	Priya pagar	

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Department of Electronics & Telecommunication Engineering

Academic Year – 2025-2026

SEM-I

Class: SY B. Tech

Date:-21.08.2025

CO1: Analyze the simple DC and AC circuit using appropriate circuit simplification techniques.

PO	1	2	3	4	5	6	7	8	9	10	11	PSO1	PSO2	PSO3
	3	3			3			3	3		3	3	-	-

Innovative Teaching Methods

Title of Innovation method/activity: Experiential Learning

1. Name of Faculty: Mr. A. R. Chaudhari.

2. Course :- Network Theory.

3. Objective of Method:
1. To promote experiential learning using real components and simulation tools

2. To develop critical thinking by comparing theoretical and practical results

4. Topic Covered through Activity:
Electrical Network Theorem Norton's theorem, Maximum Power Transfer.

5. Description of method with Benefits:

Description: The Experimental Innovative Teaching Method is an active learning approach that emphasizes hands-on, inquiry-based, and experiential techniques to teach theoretical concepts. In this method, students are engaged in designing, building, and testing electrical circuits to apply network theorems. The teacher facilitates learning by guiding students through real-world problems, encouraging prediction and analysis, and promoting peer collaboration.

Benefits: - The method replaces passive lecture-based instruction with practical experimentation and collaborative learning. Students take ownership of their learning by hypothesizing outcomes, comparing theoretical and experimental data, and presenting their findings. This results in a deeper conceptual understanding and stronger problem-solving skills.

Roles and Responsibilities
Teacher:-
▪ **Facilitator of Learning:**
Guide students through hands-on activities, encourage exploration, and support discovery rather than just delivering lectures.
▪ **Designer of Experiential Activities:**
Prepare and organize experiment/s
▪ **Mentor and Coach:**
Help students interpret data, troubleshoot problems, and connect practical results with theoretical concepts.
▪ **Promote Reflection:**
Encourage students to think critically about their observations and experiences, facilitating group discussions and reflections.
▪ **Assessment and Feedback:**
Assess student performance through practical tasks, reports, and presentations, and provide constructive feedback to support improvement.

Student
- **Active Participants:**

Engage fully in construct and analyze electrical circuits using practical tools or simulation.
- **Critical Thinkers:**

Analyze results, question discrepancies, and seek to understand underlying principles rather than just following instructions.
- **Self-Directed Learners:**

Take initiative in researching circuit concepts, troubleshooting issues, and applying feedback to improve designs.
- **Communicators:**

Present findings clearly through reports/presentations/discussions, articulating their understanding and reasoning.

6. Assessment Tools & Rubrics:

Performance would be checked through the,
- **Implementation & Lab worksheets** (Hands-on Experimentation, Circuit Construction, Prediction & Hypothesis, Analysis & Interpretation, Communication & Delivery)

Overall Individual Performance: As per following rubrics
- **Rubrics for Assessment**

Rubrics	3 (High) 2M	2 (Moderate) 1.5M	1 (Low) 1M
1. Hands-on Experimentation (2)	Accurately builds and sets up circuit; operates instruments independently and correctly	Builds circuit with minor errors; operates instruments with some guidance	Builds circuit but requires frequent help; struggles with instruments
2. Circuit Construction (2)	Circuit built correctly with neat layout; uses tools effectively	Minor connection or setup issues	Frequent errors or incorrect setup
3. Prediction & Hypothesis (2)	Accurate predictions with reasoning linked to theory	Reasonable predictions; minor logic gaps	Vague or inaccurate predictions; no explanation
4. Analysis & Interpretation (2)	Thoroughly analyzes data; correctly interprets circuit parameters; explains discrepancies	Analyzes data correctly with minor errors; interprets parameters adequately	Basic data analysis; limited interpretation of results
5. Communication & Delivery (2)	Communicates findings clearly and professionally engaging answers.	Information is mostly clear; structure and delivery are satisfactory.	Basic clarity, but answers are unclear.

7. Evaluation Sheet & Feedback

Sr. No	Name	Hands-on & Experimentation	Circuit Construction	Prediction & Hypothesis	Analysis & Interpretation	Communication & Delivery	Final Marks (10)	Sign
1	Aher Yash Manoj	1	1.5	1	1.5	1.5	6.5	
2	Ahire Harshal Kailas	2	1	1	1	1	6	
3	Andhalkar Sneha Nitin	2	2	1.5	2	1.5	9	Nehat
4	Anjarkar Ashlesha Arun	2	2	1.5	1	1	7.5	
5	Apsunde Sumit Subhash	2	2	1	2	1.5	8.5	
6	Bachhav Ritesh Pravin	1.5	1.5	1	1.5	1	6.5	
7	Bari Kartik Ganesh							
8	Bhope Deepesh Umesh							
9	Bochare Vaishnavi Vijay	2	2	1.5	2	1.5	9	Bochare
10	Borade Kanchan Samadhan	2	2	1	1	1	7	Borade
11	Boraste Anushka Pradeep	2	2	1.5	2	2	9.5	Anush
12	Chaudhari Mayur Dnyaneshwar	2	2	1.5	1	1	7.5	
13	Chinchore Ishaan Sudeep	2	1.5	2	1.5	2	9	
14	Datir Asmita Sampat	2	2	1	2	1	8	Asmita

Sr. No	Name	Hands-on & Experimentation	Circuit Constrsolction	Prediction & Hypothesis	Analysis & Interpretation	Communication & Delivery	Final Marks (10)	Sign
15	Deore Aditya Sanjay	2	2	2	1	2	9	
16	Deore Manish Lalit	2	2	1	1	2	8	
17	Dhabale Priti Bhausaheb	2	2	2	2	2	10	Dhabale
18	Dhatrak Rutuja Popat	2	2	1.5	1.5	2	9	Bhatrak
19	Dhole Tushar Bharat	2	2	2	1	1	8	
20	Dhumal Ishwari Santosh	2	2	1.5	1	2	8.5	Dhumal
21	Dosani Adnanmohamad Arif							
22	Fulmali Dhiraj Gorakhnath							
23	Gadhave Janhvi Purushottam	2	2	1.5	1.5	1	8	
24	Gaikawad Nikita Rajendra	2	2	1.5	2	2	9.5	Gaikwad
25	Gangode Shivanjali Sunil							
26	Gavate Shravani Vasant							
27	Gholap Avinash Suresh	2	2	2	1.5	1.5	9	
28	Girase Rohit Jitendra	2	2	2	1	2	9	
29	Gujar Vaibhav Jalindar	2	2	2	2	2	10	
30	Jadhav Anushka Harish	2	2	1.5	1	1.5	8	
31	Jadhav Nilesh Dattatray	2	2	2	1.5	1	8.5	
32	Kabade Shivani Shrikrishna	2	2	1.5	1	1.5	8	
33	Khalkar Gauri Changadev	2	2	2	1.5	1	8.5	
34	Khode Samruddhi Chandrakant	2	2	1.5	1	1.5	8	Khod.
35	Kokate Akanksha Shahaji							
36	Mahakale Suraj Sunil	2	2	2	1	1	8	
37	Mandalik Soham Sandip	2	2	1.5	1.5	1	8	
38	More Vaishnavi Vijay	2	2	1.5	1	1.5	8	More
39	Nigal Shirpad Rajendra							
40	Nikam Shantanu Santosh	2	2	1.5	2	1.5	9	
41	Otari Harshal Vishvanath							
42	Padol Shraddha Ravindra	2	2	2	2	1.5	9.5	
43	Pagare Sushil Dattu	2	2	1.5	1	1	7.5	
44	Patil Aditya Rajendra	2	2	2	1	1	8	
45	Pawar Bhoomi Sunil	2	2	2	2	1	9	
46	Pawar Krishna Ishwar	2	2	2	1.5	1	8.5	
47	Pawar Roshan Narayan	2	2	1.5	1.5	1	8	Pawar
48	Pawar Shreyasi Walmik							
49	Pingale Vedant Mukund	2	2	1.5	2	2	9.5	
50	Rathod Harshad Anil	2	2	2	2	2	10	
51	Sahane Vaishnavi Dnyaneshwar	2	2	1.5	1.5	2	9	Sahane
52	Satpute Yuvraj Santosh	2	2	1	2	2	9	YS
53	Sawant Kalyani Ganesh	2	2	2	1	2	9	
54	Shetty Aditi Devadas	2	2	2	1	2	9	

Sr. No	Name	Hands-on & Experimentation	Circuit Construction	Prediction & Hypothesis	Analysis & Interpretation	Communication & Delivery	Final Marks (10)	Sign
55	Shinde Prachi Pundlik	2	2	1.5	1.5	2	9	
56	Surwade Abhijit Narayan	2	2	1.5	1.5	2	9	
57	Tidake Aarti Sandip	2	2	1	2	2	9	
58	Tiwari Aditi Dhiraj	2	2	2	1	2	9	
59	Ughade Sahil Gopal	2	2	1	1.5	2	8.5	
60	Wadettiwar Nirmal Dilip							
61	Wadghule Radhika Suresh	1	1.5	1	1.5	1.5	6.5	
62	Wagh Priyadarshini Tukaram	2	1	1	1	1	6	
63	Wagh Rajashree Vikas	2	2	1.5	2	1.5	9	*(sign)*
64	Wani Manasvi Dhiraj	2	2	1.5	1	1	7.5	
65	Yeole Aayush Anant	2	2	1	2	1.5	8.5	

8. Impact Analysis

Sr. No	2- Yes	1- No
Do you find Methodology Helpful	50	04

Analysis:-

- 90 % students score more than 70% in activity.
- 92 % agreed the method is helpful.

9. Conclusion:-

Students not only applied theorems practical problems but also developed essential skills such as, utilization of modern tool, teamwork, communication, and critical thinking. The process of predicting outcomes, validating them experimentally, and reflecting on the results fostered a deeper level of cognitive engagement.

This method proves that "learning by doing" not only makes abstract electrical theories more tangible but also builds confident, inquiry-driven, and capable future engineers.

10. Activity Picture
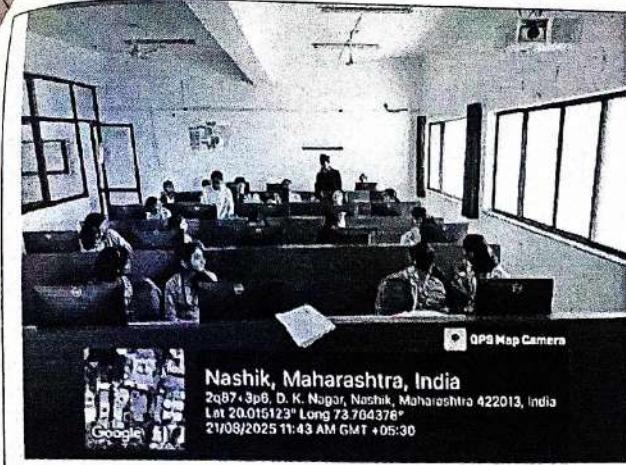
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Lat 20.015123° Long 73.764376°
21/08/2025 11:43 AM GMT +05:30
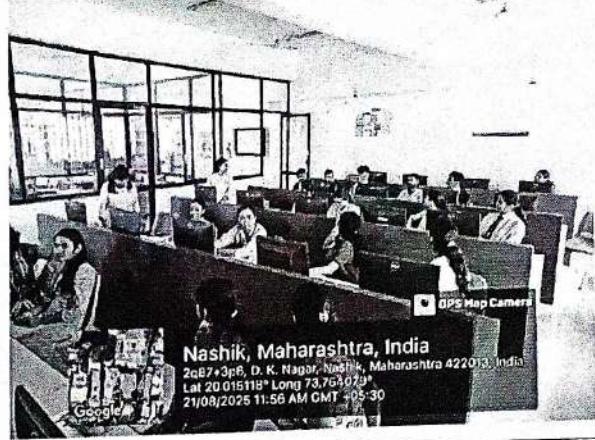
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10. For review and critique contact: e-mail address of faculty and HOD
Chaudhari.atul@kbtcoe.org

Mr. A. R. Chaudhari
Course In charge
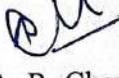
Mr. A. R. Chaudhari
Module Coordinator

HoD