

## Department of Electrical and Electronics Engineering

### Innovative Teaching –Learning Methods-2024-2025

S. No	Name of the Faculty	Topic	Course	Innovative methods adopted	Goals	The significance of Result	Available in the Institute Website	Availability for review and critique	Reproducibility and Reusability
1	D Srinivas	Construction of DC Machine	Electrical Machines I	Jigsaw Method	To enable each student to specialize in one aspect of a topic with cooperative learning strategy which helps to improve listening, communication, and problem-solving skills.	It helped the students in understanding the construction of DC Machines	Available on the Institute Website	Available on the Institute Website for Review	It is used by Electrical Machines Course faculty in later years
2	A Mohan Das	Power Electronic Converters	Power Electronics	Flash card	To inculcate team spirit among the students respond to learning through visual, tactile means.	The level of understanding of technical concepts of the students is improved	Available in the Institute Website	Available on College Website for Review	This can be used by any faculty and implement in their course
3	Mr. T. Parameshwar	Dynamo meters	Electrical Measurement & Instrumentation	Think pair share	To engage students think individually about a topic or answer to a question and share ideas with classmates.	As the Topic is complex for the students to understand, this method helps them to think , discuss and share their opinions such that they can easily understand the concept.	Available on the Institute Website	Available on the Institute Website for Review	This innovative method can be reused for other regulation methods.
4	Dr A Srujana	Turbine Speed Governing System	Power System Operation and Control	Activity based learning	To encourage students to actively participate in their own learning experience through practical activities such as problem-solving and independent investigation.	The students have written the assignments well with respect to this topic.	Available on the Institute Website	Available on the Institute Website for Review	This methodology is also used by faculty of other courses the next year.
5	V Vijaya Lakshmi	Fully Controlled Converter	Power Electronics	Simulation based teaching and learning	To develop the ability in an individual regarding problem solving behavior so the students understand the operation of the circuit and its wave forms with clarity	The graphical results of simulation give clear understanding of the process involved which will enable them to remember and reproduce.	Available on college website	The video of the class is available on College Website for Review	The same method is implemented in the succeeding years

6	S Chaitanya	Direct Energy Conversion Systems	Renewable Energy Sources	Pictionary	To allow students to convey the meaning of the concept through pictures such that logical skills, creativity, retention and cognition is improved	It has kindled the interest among the students	Available on the Institute Website	Available on the Institute Website for Review	This can be used by any faculty and implement in their course
7	K Swapna	Voltage, Current, Ohms law, R, L, C	Basic Electrical Engineering	Flash card	To inculcate team spirit among the students respond to learning through visual, tactile means.	The level of understanding of technical concepts of the students is improved	Available in the Institute Website	Available on College Website for Review	This can be used by any faculty and implement in their course
8	L Raju	Transformer	Electrical Machines-II	Augmented Reality	To enhance the effectiveness and attractiveness of teaching and learning for students in real life scenarios such that the students learn the concept in the more visualized way	This concept has made the students to understand it in a more practical way and it has been interactive even without prior idea.	Available on the Institute Website	Available on the Institute Website for Review	This can be used by any faculty and implement in their course
9	M Vijay Kumar	Design of microgrid	Smart Grid	Simulation-based teaching and learning	To develop the ability in an individual regarding problem solving behavior so the students understand the operation of the circuit and its wave forms with clarity	The graphical results of simulation give clear understanding of the process involved which will enable them to remember and reproduce.	Available on college website	The video of the class is available on College Website for Review	The same method is implemented in the succeeding years
10	K Haritha	Thevenin Theorem	Network Analysis	Gamified Learning, Storyline, Learning Through Analogies	To inculcate team spirit among the students respond to learning through visual, tactile means.	The level of understanding of technical concepts of the students is improved	Available in the Institute Website	Available on College Website for Review	This can be used by any faculty and implement in their course

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1	Dr. A. Srujana	Voltage Control	Power Systems Operation and Control	Mind Map	Mind Maps can be used in class to brainstorm and generate discussions, which involves use of notes with keywords and images in classroom teaching.	This will encourage students not only to participate but also to fully understand a topic and its nuances by creating connections between ideas. This makes students remember the topic for a longer time	Available on college website	Available on College Website for Review	This can be used by any faculty and implement in their course
2	Dr. C. N. Ravi	NOT & AND gate realization	Digital Electronics	Demonstration-working	To kindle interest / enthusiasm by doing the experiment	The students will learn how to implement OR Gate functionality practically	Available on College Website	Available on College Website for Review	This method is used in Integrated Circuits and Applications Course by other faculty
3	Mr. T. Parameshwar	Constructional features of a 1- $\emptyset$ Transformer	Electrical Machines-II	Never miss a class	To make the students learn the concept even if they could not attend the class	The student will not miss this concept of the course	Available on College Website	Available on College Website for Review	This methodology can be used for other regulation methods
4	Mr. D. Srinivas	Electric Heating and Welding	Utilization of Electrical Energy	Short Presentation	To improve the effective presentation skills of students on classification of loads	Improved the presentation skills of student and better analysis of traction systems	Available on the Institute Website	Available on College Website for Review	This can be used by any faculty and implement in their course
5	Mrs.K Swapna	Fuse and Circuit Breaker	Basic Electrical Engineering	Socio constructive Approach	To allow multiple interpretations and expressions of learning and make students understand the concept by playing a video and asking questions	The level of understanding of concepts of the students is improved	Available on College Website	Available on College Website for Review	This method is used by Switch Gear and Protection faculty
6	Mr. M. Vijaykumar	DC Machines	Basic Electrical Engineering	Peer to Peer learning	To emphasize peer learning such that Peers and students share a similar discourse, allowing for greater understanding.	The students understood the concepts by teaching others and learning from it with more depth.	Available on website	Available on College Website for Review	It is reused by Renewable Energy Sources course faculty in the next year

7	V.Vijaya Lakshmi	Power Electronic Converters	Power Electronics	Flash card	To inculcate team spirit among the students respond to learning through visual, tactile means.	The level of understanding of technical concepts of the students is improved	Available in the Institute Website	Available on College Website for Review	This methodology is used by other BEE Course faculty
8	Mr. B. Sudhakar Reddy	IOT BASED FIELD STRENGTH CALCULATION	Electromagnetic Field	Project based Learning	To gain knowledge and skills by working on a project by investigating and responding to an authentic, engaging, and complex question, problem, or challenge.	The students interest in learning the subject has increased after the implementation of this method	Available in the Institute Website	Available on College Website for Review	This method is used by next year faculty of the same course
9	K Satish Kumar	Ohms Law	Basic Electrical Engineering	I. Hands-On Experimentation II. Interactive Simulations III. Problem-Solving Through Real-World Applications	To encourage students to actively participate in their own learning experience through practical activities such as problem-solving and independent investigation.	The students have written the assignments well with respect to this topic.	Available on the Institute Website	Available on the Institute Website for Review	This methodology is also used by faculty of other courses the next year.
10	P Naga Muneendra	P N Junction Diode Analysis	Electronic Devices and Circuits	Simulation-Based Teaching-Learning Method	To develop the ability in an individual regarding problem solving behavior so the students understand the operation of the circuit and its wave forms with clarity	The graphical results of simulation give clear understanding of the process involved which will enable them to remember and reproduce.	Available on college website	The video of the class is available on College Website for Review	The same method is implemented in the succeeding years
11	Hussain Shaik	Energy Storage Systems	Non-Conventional Energy Sources	Pictionary	To allow students to convey the meaning of the concept through pictures such that logical skills,creativity,retention and cognition is improved	It has kindled the interest among the students	Available on the Institute Website	Available on the Institute Website for Review	This can be used by any faculty and implement in their course
12	Dr. C. N. Ravi	Non-Conventional Energy Sources	Non-Conventional Energy Sources	Peer-to-Peer Learning	To improve the student's analyzing skills, individual and teamwork skills	It has improved the student's higher level of thinking, communication skills and Self management skills	Available in the Institute Website	Available on College Website for Review	This methodology is used by faculty of other Open Elective Courses
13	P Naga Muneendra	Thevenin Theorem	Network Analysis	Gamified Learning, Storyline, Learning Through Analogies	To inculcate team spirit among the students respond to learning through visual, tactile means.	The level of understanding of technical concepts of the students is improved	Available in the Institute Website	Available on College Website for Review	This methodology is used by other BEE Course faculty

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1	Dr.A.Srujana	Reactive power control	Power System Operation and Control	Short Presentation	To improve the effective presentation skills of students on classification of loads	Improved the presentation skills of student and better analysis of a topic	Available on the Institute Website	Available on the Institute Website for Review	The same method is implemented in the succeeding years
2	Dr. C. N. Ravi	Memory Organization in the 8086 Microprocessor	Microprocessor and Interfacing Devices	Activity-based Learning	To create a student-centered approach to learning which will improve the understanding skills of the students	The students have performed well in the Semester End Examination after using this method.	Available on the Institute Website	Available on the Institute Website for Review	This methodology is also used by faculty of other courses the next year.
3	V. Vijaya Lakshmi	Norton's Theorem	Network Analysis	Google it–Report writing	To inculcate report writing practices in an effective way	The students writing skills have been improved.	Available on the Institute Website	Available on the Institute Website for Review	This can be used by any faculty and implement in their course
4	CH.Vikram	(i)Concept of Energy Storage System (ii)Importance of Energy Storage System (iii)Roles of Electrical Energy Storage Systems (iv)Types of Energy Storage	Energy Storage Systems (ESS)	Conceptualized Learning through Animated Videos	To develop the ability in an individual regarding problem solving behavior so the students understand the operation of the circuit and its wave forms with clarity	The graphical results of simulation give clear understanding of the process involved which will enable them to remember and reproduce.	Available on college website	The video of the class is available on College Website for Review	The same method is implemented in the succeeding years

		Systems (v)Pumped Hydro Storage System							
5	Mr. L Raju	Basics of Electrical Machines	Electrical Machines	Crossword	To improve problem solving skills, test skills, vocabulary, critical thinking and generate new ideas where students can gain greater retention and memorization.	The keywords can be remembered and recapitulated whenever required especially during examinations	Available on the Institute's Website	Available on the Institute Website for Review	This method is used in Energy Auditing and Conservation Course
6	B.Rajesh	Single Phase Controlled Converters, DC-DC Choppers	Power Electronics	Pictionary	To allow students to convey the meaning of the concept through pictures such that logical skills, creativity, retention and cognition is improved	Students have drawn the circuits without any difficulty in the examinations.	Available on the Institute Website	Available on the Institute Website for Review	This can be used by any faculty and implement in their course
7	Husain. Shaik	Floating solar project, Solar Energy at civil Bye-Law, Telluric (Natural Earth) Currents	Non-Conventional Energy Sources	Activity based learning	To encourage students to actively participate in their own learning experience through practical activities such as problem-solving and independent investigation.	The students have written the assignments well with respect to this topic.	Available on the Institute Website	Available on the Institute Website for Review	This methodology is also used by faculty of other courses the next year.
8	Mrs. S. Chaitanya	Corona loss and measurement of audible noise.	EHVAC Transmission	Flipped Class Room	To give equal opportunity to students to share their views and ideas and capture their attention & interest.	The students improved their level of understanding as they prepared for explaining the same	Available on the Institute Website	Available on the Institute Website for Review	This methodology is also used by faculty of other courses the next year.
9	Mrs. K. Haritha	Basics of Energy Audit	Electrical Energy Auditing and Conservatio	Crossword	To improve problem solving skills, test skills, vocabulary, critical thinking and generate new ideas where students can gain greater retention and memorization.	The keywords can be remembered and recapitulated whenever required especially during examinations	Available on the Institute Website	Available on the Institute Website for Review	This method is use by other faculty who taught the course in the later years.

10	K Swapna	Star Delta Transformation	Basic Electrical Engineering	Real-World Applications Exercise	To improve problem solving skills, test skills, vocabulary, critical thinking and generate new ideas where students can gain greater retention and memorization.	The keywords can be remembered and recapitulated whenever required especially during examinations	Available on the Institute Website	Available on the Institute Website for Review	This method is use by other faculty who taught the course in the later years.
11	P Nageshwar Rao	Transistor Applications	Analog Electronics	Let Us Get Transistorized!	To create a student-centered approach to learning which will improve the understanding skills of the students	The students have performed well in the Semester End Examination after using this method.	Available on the Institute Website	Available on the Institute Website for Review	This methodology is also used by faculty of other courses the next year.
12	A Mohandas	Controlled rectifiers	Power Electronics	Active Learning Method – Simulation	To develop the ability in an individual regarding problem solving behavior so the students understand the operation of the circuit and its wave forms with clarity	The graphical results of simulation give clear understanding of the process involved which will enable them to remember and reproduce.	Available on college website	The video of the class is available on College Website for Review	The same method is implemented in the succeeding years