

LESSON PLAN

Program Name	Civil Engineering
Subject Name	Fundamentals of Electrical & electronics Engineering
Subject Code	ES-104
Semester	2 nd
Subject Teacher Name	Sarmistha Kumari / Rajinder Singh

Evaluation Scheme

Sr. No.	Subject Name	Study scheme (Hrs/Week)		Marks in Evaluation Scheme					
				Internal Assessment			External Assessment		
				Th	Pr	Total	Th	Pr	Total
1.	Fundamentals of Electrical & electronics Engineering	4	4	40	40	80	60	60	120
Reference Books		(i) A text book of Applied Electronics by RS Sedha, S.Chand (ii) Basic Electrical Engineering by VN Mittle & Arvind Mittal, McGrawEducation							

Course Outcomes (COs)


CO - 1	To understand different elements and concepts of electrical engineering field
CO - 2	To understand basic function of various active and passive electronic components, signal, Op-Amp
CO - 3	To understand basic components of Digital Electronics.

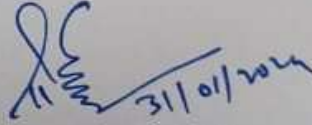
Teaching Plan

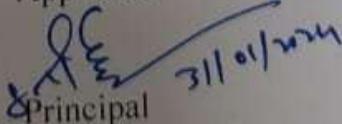
Unit No.	Name of Topic	Proposed Date	Actual Date	Remarks
1	Active and passive components and their applications.	29/01/2024 30/01/2024		
	Signals and their types	01/02/2024 03/02/2024		
	Ideal/ non-ideal voltage current source, dependent/independent current source.	05/02/2024 06/02/2024 08/02/2024		
	Doubt clearing session	12/02/2024 13/02/2024		
2	Operational amplifier-ideal Op-Amp, practical Op-Amp	15/02/2024 17/02/2024		
	Open loop and closed loop configuration	19/02/2024 20/02/2024		




10	Identify various active components given in the circuit. Use multimeter to measure the value of given resistor	03/04/2024	02/04/2024			
11	Use LCR-Q tester to measure the value of given capacitor Determine the value of given resistor using digital multimeter to confirm with color code.	10/04/2024	09/04/2024			
12	Test the PN junction diode using digital multimeter. Test the performance of PN-junction diode.	17/04/2024	16/04/2024			
13	Test the performance of Zener diode. Test the performance of LED Identify three terminals of transistors using digital multimeter.	24/04/2024	23/04/2024			
14	Test the performance of NPN transistors Determine the current gain of CE transistor configuration	01/05/2024	30/04/2024			
15	Test the performance of transistor switch circuit	08/05/2024	07/05/2024			
16	Test Op-Amp as amplifier and integrator.	22/05/2024	21/05/2024			


(Signature of Teacher)


(Signature of HOD)

Approved

Principal
Govt. Polytechnic for Women Rehan

Auto transformers	06/05/2024		
Basic principle of Electromechanical energy conversion	07/05/2024 09/05/2024		
Revision of important topics	20/05/2024 21/05/2024 25/05/2024		

Assignments

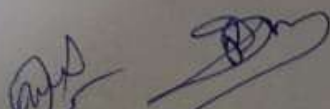
Assignment No	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-1 and Unit-2	29/02/2024		
A-2	Unit-3 and Unit-4	30/03/2024		
A-3	Unit-5, Unit-6	25/05/2024		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-1 and Unit-2	As per HPTSB Academic Schedule		
Class Test -2	Unit-3 and Unit-4			
House Test - 1	Unit-1, Unit-2, Unit-3, Unit-4 and Unit-5			

Lab Plan

Sr. No.	Name of Practical	Proposed Date		Actual Date		Remarks
		G1	G2	G1	G2	
1	Determine the permeability of magnetic material by plotting its BH curve.	31/01/2024	30/01/2024			
2	Measure voltage current and power in 1 phase circuit with resistive load.	07/02/2024	06/02/2024			
3	Measure voltage current and power in RL circuit	14/02/2024	13/02/2024			
4	Determine the transformation ratio (K) of 1 phase transformer	21/02/2024	20/02/2024			
5	Connect single phase transformer and measure input and output quantity	28/02/2024	27/02/2024			
6	Make star and delta connection in induction motor starter and measure the line and phase value.	06/03/2024	05/03/2024			
7	Identify various passive electronic components in the given circuit.	13/03/2024	12/03/2024			
8	Connect resistor in series and parallel combination on bread board and measure its value using digital multimeter.	20/03/2024	19/03/2024			
9	Connect capacitor in series and parallel on bread board and measure its value using multimeter.	27/03/2024	26/03/2024			



	Application of Op-Amp as amplifier, adder, Differentiator and Integrator	22/02/2024 26/02/2024		
	Doubt clearing session	27/02/2024		
3	Introduction to Boolean Algebra Electronic implementation of Boolean operations	29/02/2024 02/03/2024		
	Gates functional block approach	04/03/2024		
	Storage elements Flip Flops-A Functional Block approach	05/03/2024 07/03/2024		
	Counters: Ripple, Up/Down and decade,	11/03/2024 12/03/2024		
	Introduction to digital IC Gates(TTL Type)	14/03/2024 16/03/2024		
	EMF current potential difference, Power and energy; MMF,magnetic force,permeability, hysteresis loop,reluctance leakage factor and BH curve	18/03/2024 19/03/2024		
4	Electromagnetic induction Faraday's Law, Lenz's Law	21/03/2024 23/03/2024		
	Dynamically induced emf and statically induced emf	26/03/2024 28/03/2024		
	Analogy between electric and magnetic circuits	30/03/2024 01/04/2024		
	AC circuits cycle, frequency, periodic time, amplitude angular velocity, RMS value	02/04/2024 04/04/2024		
5	Mathematical and phase or representation of alternating emf and current	06/04/2024 08/04/2024		
	Voltage and current relationship in star and delta connection;	09/04/2024		
	AC in resistor, conductor, and capacitor	16/04/2024 18/04/2024		
	AC in RL series, RC series, RLC series and parallel circuits;	20/04/2024 22/04/2024		
	Power in AC circuits,	23/04/2024		
	Power Triangle,DCS	25/04/2024 27/04/2024		
	Transformer and Machines general construction and principal of core	29/04/2024 30/04/2024		
	EMF equation and transformation Ratio	02/05/2024 04/05/2024		
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