GOVERNMENT CO-ED POLYTECHNIC, RAIPUR
DEPARTMENT OF ELECTRICAL ENGINEERING
LESSON PLAN

Session:- July- Dec 2024

Semester:- 3rd

Session start date as per University Calendar:-

Course Name:- **Electrical Circuit**

Course Code:- 2024371(024)

Name of Subject teacher:- Mr. Deepak Patel

Unit -1 Principles of Electrical Circuit

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
1.1 Classification Of Electrical Elements: Active & Passive, Unilateral and bilateral, Independent and Dependent Source	1	**1.1** Indentify the commonly used components and materials in an electric circuit. **1.2** Observe Voltage and Current in an incandescent lamp and comment on your observation. **1.3** Measure Voltage and current in a given linear electric circuit.	2	11/09/24 12/09/24 13/09/24
1.2 Passive Element/Components(R,L and C) : Steady State behavior in DC Circuit	2			
1.3 Simple Series and Parallel Resistive Circuit	1	**1.4** Measure current and voltage in a particular branch of the given electrical circuit using kirchhoff's Current Law. **1.5** Measure voltage Drop in a closed loop of the given electrical circuit using kirchhoff's Voltage Law **1.6** Determine the current and voltage in a given electrical Circuit.	2	14/09/24 17/09/24 18/09/24 19/09/24 20/09/24 21/09/24 25/09/24 26/09/24
1.4 Ohm's Law, Kirchhoff's Voltage and Current Law	2			
1.5 Numerical	2			
1.6 Source Transformation	1			
1.7 Mesh & Nodal Analysis	2			

Number of periods planned (CI + LI) : 15

Number of periods actually taken : 11 (CI)

Unit – 2 Circuit Analysis and Network Theorems

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
2.1 Star Delta Transformation of Passive Network	1	2.1 Connect star connected resistance to its equivalent Delta connection and determine the equivalent resistance.		27/09/24 28/09/24
2.2 Superposition Theorem	1	2.2 Connect Delta connected resistance to its equivalent Star connection and determine the equivalent resistance.	2	
2.3 Thevenin's Theorem	1			30/09/24
2.4 Norton's Theorem	1	2.3 Measure Current through and voltage across a circuit element of a given electric Circuit and verify applying mesh and nodal Analysis.		1/10/24
2.5 Maximum Power Transfer Theorem	1			3/10/24 4/10/24
2.6 Application of Theorem to Solve DC Network	6			7/10/24 8/10/24 9/10/2 14/10/2 15/10/2
		2.4 Measure current in a branch of the given electrical circuit having two or more input sources using Super position theorem. 2.5 Measure load current in the load resistance using Thevenin's theorem in a given circuit. 2.6 Measure load current in the load resistance using Norton's theorem in a given circuit. 2.7 Determine the maximum power and load resistance for which circuit has maximum power using maximum power transfer theorem.	2	

Number of periods planned (CI + LI) : **15**
Number of periods actually taken : 11 (CI)

Unit – 5 Three phase A C circuits

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
5.1 Generation of three phase voltage	1	5.1 Measure the line/phase current, line voltage/phase voltage for the given three phase load connected to a three phase source.	1	23/11/24
5.2 Three phase three wire source and three phase four wire source, Phase sequence and phasor diagram	2			26/11/24 29/11/24
5.3 Connection of three phase winding in Star/Delta	2	5.2 Measure neutral displacement voltage of the given three phase unbalanced load connected to a three phase source Measure three phase power for the given star connected load.	1	3/12/24 4/12/24
5.4 Line and phase electrical quantity relationship: Star/Delta	4			6/12/24 7/12/24
5.5 Three phase load: Balanced /Unbalanced	1			9/12/24 10/12/24
5.6 Measurement of power in three phase circuits	4	5.3 Measure three phase power for the given star/delta connected load.	2	11/12/24 13/12/24 16/12/24 19/12/24

Number of periods planned (CI + LI) : **18**

Number of periods actually taken : 13 (CI)

Number of Total periods planned : **75**

Number of Total periods actually taken : 56 (·CI)

Subject Teacher : Deepak Patel.

HOD
(Department of Electrical Engineering)