SREE VIDYANIKETHAN ENGINEERING COLLEGE

(Autonomous)
SreeSainath Nagar, A. Rangampet-517 102

Department of Electrical and Electronics Engineering

Lesson Plan

Name of the Subject : Basics of Electrical and Mechanical Technology (14BT30233)
Class & Semester : II B. Tech– I Semester (CE)
Name(s) of the faculty Member(s) : N. Chaitanya Kumar Reddy

S. No.	Topic	No. of periods	Book(s) followed	Topics for self study
UNIT–I: Electrical Circuits and Wiring				
1.	Introduction , active and passive elements	1	T1,R1,R2	Solve different types of electrical circuits and design layout of wiring for different building structures
2.	Ohm's law- Kirchhoff's laws	1	T1,R1,R2	
3.	Resistive networks - Series and parallel configuration	1	T1,R1,R2	
4.	Inductive and capacitive networks-series and parallel configuration	1	T1,R1,R2	
5.	Star-delta transformation-Problems	1	T1,R1,R2	
6.	Conductors and insulators and Introduction to Alternating Quantities, RMS values,	1	T1	
7.	phasor representation, active, reactive and apparent power, power factor – Problems	1	T1	
8.	Wiring - systems of wiring- cleat wiring, conduit winding.	1	T2,R3	
9.	General rules related to wiring - IE rules for internal wiring estimation.	1	T2,R3	
10.	Wiring layout of electrical installations for residential buildings and commercial buildings	1	T2,R3	
11.	Wiring layout of electrical installations for and small industries	1	T2, R3	
Total periods required:		**11**		
UNIT – II: Earthing, Illumination and Basics of AC Machines				
12.	Introduction to earthing- rod earthing, Pipe earthing	1	T1,T2	Study various types of lamps and working of various electrical machines
13.	Plate earthing	1	T1,T2	
14.	Construction and working of Incandescent lamp, Fluorescent lamp	1	T2,R4	
15.	Construction of Transformer	1	T1,R1	
16.	Operating and working of Transformer	1	T1,R1	
17.	Construction and working of three phase induction motor	2	T1,R1	
18.	Working of single phase capacitor start induction motor	1	T1,R1	
19.	Construction and working of alternator	1	R1	
Total periods required:		**9**		
Grand total periods required:		**20**		

TEXT BOOKS:

T1. D.P. Kothari, *Basic Electrical Engineering, 3rd edition,* Tata McGraw Hill, 2012.

T2. K. B. Raina, *Electrical Design Estimating and Costing*, New Age International, 2007.

REFERENCE BOOKS:

R1. V.K. Mehta and Rohit Mehta, *Principles of Electrical Engineering*, S. Chand and Company Ltd., New Delhi, 2006.

R2.M.S Naidu and S. Kamakshaiah, *Introduction to Electrical Engineering*, Tata McGraw-Hill Publications Ltd., New Delhi, 2009.

R3. J.B. Gupta, *Electrical Installation Estimating & Costing*, S. K. Kataria & Sons, 2009.

R4. H.Parthab, *Art and science of utilization of electrical energy,* Dhanpat rai & Co., 2010.