Bhoj Reddy Engineering College for Women: Hyderabad

Department of Electrical and Electronics Engineering

Lesson plan of faculty member for the academic year 2018–19

Class: II B Tech Branch-Section: ECE-B Semester: I

Subject: ELECTRICAL TECHNOLOGY Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
UNIT – I: DC Generators and DC Motors		
1.	Introduction to electrical technology	09 July 2018
2.	Faraday's Laws of Electromagnetic Induction	11 July 2018
3.	Tutorial: Numerical on Induced emf	11 July 2018
4.	Principle of operation of DC Machines	12 July 2018
5.	EMF equation	13 July 2018
6.	Types of generators	16 July 2018
7.	Types of generators with emf equations	18 July 2018
8.	Tutorial: Derivation and Numerical of Emf equation (Numerical)	18 July 2018
9.	Magnetization of DC generators	19 July 2018
10.	Load characteristics of DC generators	20 July 2018
11.	DC Motors(principle)	23 July 2018
12.	Types of DC Motors	25 July 2018
13.	Tutorial: Types of DC Generator and equations	25 July 2018
14.	Types of DC Motors with emf equations (Numerical)	26 July 2018
15.	Characteristics of DC motors	27 July 2018
16.	3-point starters for DC shunt motor	30 July 2018
17.	Losses and efficiency	01 August 2018
18.	Tutorial: Numerical on losses and efficiency of DC Generator	01 August 2018
19.	Swinburne's test	02 August 2018
20.	Speed control of DC shunt motor – Flux and Armature voltage control methods.	03 August 2018
21.	Revision	08 August 2018
22.	Tutorial: Numerical on losses and efficiency of DC Generator	08 August 2018
UNIT-II: **Transformers & Performance**		
23.	Principle of operation of single phase transformer	09 August 2018
24.	Types of Transformers	10 August 2018
25.	Constructional features	13 August 2018
26.	Phasor diagram on No Load and Load	16 August 2018
27.	T Emf equation of transformer	17 August 2018
28.	Losses and Efficiency of transformer	20 August 2018
29.	Regulation – OC and SC tests	23 August 2018
30.	OC and SC tests	24 August 2018
31.	Predetermination of efficiency and regulation (Simple Problems)	27 August 2018
32.	Revision	29 August 2018
33.	Tutorial: Numerical on OC and SC Test	29 August 2018
UNIT-III: **Three Phase Induction Motor**		
34.	Principle of operation of three-phase induction motors	30 August 2018
35.	Slip ring motor and Squirrel cage motor	31 August 2018
36.	Discussion on Mid-I and subjective	07 September 2018
37.	Slip-Torque characteristics	10 September 2018
38.	Efficiency calculation	12 September 2018
39.	Tutorial: Losses and efficiency Calculations	12 September 2018
40.	Efficiency calculation	14 September 2018
41.	Starting methods (Stator side)	17 September 2018
42.	Starting methods (Rotor side)	19 September 2018
43.	Tutorial: Rotor output and input calculations	19 September 2018

44.	Revision	20 September 2018
UNIT-IV: **Alternators**		
45.	Alternators- Constructional features	24 September 2018
46.	Principle of operation, EMF equation	26 September 2018
47.	Tutorial: Problems on emf equation	26 September 2018
48.	Distribution factor	27 September 2018
49.	Coil span factors	28 September 2018
50.	Predetermination of regulation by Synchronous Impedance Method	01 October 2018
51.	Tutorial: Numerical on Distribution and Coil span factors	03 October 2018
52.	OC and SC tests	03 October 2018
53.	Tutorial: Numerical on OC and SC Test of Alternator	04 October 2018
54.	Revision	05 October 2018
UNIT-V: **Special Motors & Electrical Instruments**		
55.	Principle of operation of Shaded pole motor	08 October 2018
56.	Principle of operation of capacitor Motor	10 October 2018
57.	Tutorial: Numerical on OC and Sc Tests on Alternator	10 October 2018
58.	Principle of operation of AC servomotor	11 October 2018
59.	Principle of operation of AC Tachometer	12 October 2018
60.	Synchro's	22 October 2018
61.	Stepper Motors- Characteristics	24 October 2018
62.	Tutorial: Numerical on Step angle	24 October 2018
63.	Basic Principles of indicating instruments	25 October 2018
64.	Moving coil instruments (Ammeters and voltmeters)	26 October 2018
65.	Moving iron instruments (Ammeters and voltmeters)	29 November 2018
66.	Moving iron instruments (Ammeters and voltmeters)	31 November 2018
67.	Tutorial: Numerical on Torque for MI and MC	31 November 2018
68.	Difference between all Machines	01 November 2018
69.	Torques Required for MC and MI Instruments	02 November 2018
70.	Previous papers Numerical	05 November 2018
71.	Previous paper discussion	08 November 2018
72.	Revision	09 November 2018

Text books:

1. M.S Naidu and S. Kamakshaiah, "Introduction to Electrical Engineering", TMH Publ.
2. T.K. Nagasarkar and M. S. Sukhija, "Basic Electrical Engineering", Oxford University Press, 2005.
3. V.K Mehta, "Principles of Electrical Engineering", S. Chand Publications.
4. I.J. Nagarath and D.P Kothari, "Theory and Problems of basic electrical engineering", PHI Publications.
5. David V. Kerns, JR. J. David Irwin, "Essentials of Electrical and Computer Engineering"

Name and signature of the faculty: Ms V Sri Lakshmi Vani ----

Name and signature of Head of the Department: Ms R Manju Bhargavi ----