

Course – 6 Title: Basic Electrical Engineering

Course No.: EEE 111 Credit : 3 Contact Hours: 3 Total Marks: 100

10.1 Rationale: To be a computer engineer, one needs to study and apply electricity and electromagnetism in different electrical applications.

1.2 Objectives:

1. To understand about concept of current, voltage and power.
2. To learn and study of DC network theorems and solve circuits.
3. To know about magnetic circuits and different magnetic theorem.
4. To know about ac fundamentals and solve different ac circuits.

10.3 Learning Outcomes	10.4 Course Content	10.5 Teaching Strategy/ Learning Experience	10.6 Assessment Strategy
a. Define and discuss Electric current	Fundamental electric concepts and measuring units	Lecture, Exercise	Short answer, Essay, Assignment
a. Define different electrical parameters. b. State and explain different network theorem and laws. c. Analyze different electric networks d. Calculate circuits parameters.	D.C. voltage, Current, Resistance and power, Laws of electrical circuits and methods of network analysis, Principles of D.C. measuring apparatus	Lecture, Exercise, Assignment, Group Discussion	Short answer, Essay, Assignment, Exercise
a. State and explain magnetic laws. b. Solve different magnetic networks	Laws of magnetic fields and methods of solving simple magnetic circuits	Lecture, Exercise, Assignment,	Assignment, Short answer, Exercise
a. State and explain magnic laws. b. Calculate self and mutual inductance of electric circuits.	Electromagnetism : Magnetic fields, Maxwell's equations. Ampere's law, Faraday's law, Lenz's law, Inductance - Self and mutual inductance	Lecture, Exercise, Assignment,	Short answer, Essay, Assignment,
a. Summarize the properties of magnetic materials. b. Define and explain different magnetic terms. c. Draw and describe magnetic circuits.	Magnetic Properties of matter : Magneto-motive force, Magnetic field intensity, Permeability and susceptibility, Classification of magnetic material, Magnetization curves of Ferromagnetic materials,	Lecture, Reading, Assignment	Short answer, Essay, Assignment, Exercise

	Magnetic circuits, Magnetostriction.		
a. Define and explain ac network terms b. Derive AC values. c. Design and solve series and parallel AC circuits. d. Compare dc and ac networks.	Alternating current - instantaneous and r.m.s. current, Voltage and power, Average power for various combinations of R,L and C circuits, Phasor representation of sinusoidal quantities. Single phase AC circuit analysis.	Lecture, Reading, Assignment, Group Discussion	Short answer, Essay, Assignment, Exercise

RECOMMENDED BOOKS AND PERIODICALS

Recommended Books:

1. B.L. Theraja : A text book of Electrical Technology, Volume: I
2. V.K. Mehta : Principles of Electrical Engineering and Electronics
3. G.F. Corcoran : Alternating Current Circuits