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Excelssior Education Society's
K. C. College of Engineering and Management Studies and Research, Thane (E)
(Affiliated to the University of Mumbai)
Mith Bunder Road, Near Hume Pipe, Kopri, Thane (E)-400603

Department of Humanities and Sciences
A.Y. 2015-16

CLASS TEST- II

Semester: I
Marks: 20

Class: F.E. (A & B & C)
Subject: Basic Electrical & Electronics Engg.

Date: 31/10/15
Duration: 1 Hr

Note: Attempt any Four questions out of Six questions.

- Q.1. Derive the relationship between phase and line voltages, and currents for a star-connected balanced load across a three-phase balanced system. Also draw the vector diagram. [05]
- Q.2. Three similar coils, each of resistance 20Ω and inductance 0.5 H , are connected in the delta to a three-phase 50 Hz , 400 V supply. Calculate (i) phase angle, (ii) phase current, (iii) line current, (iv) active power, and (v) reactive power. [05]
- Q.3. Explain two wattmeter method for power measurement in three-phase star connected balanced load. Also draw the phasor diagram. [05]
- Q.4. A single-phase transformer has 450 primary and 1200 secondary turns. The net cross-sectional area of the core is 60 cm^2 . If the primary winding be connected to a 50 Hz supply at 440 V , calculate (i) voltage induced in the secondary winding (ii) peak value of the flux density in the core. [05]
- Q.5. Draw and explain phasor diagram of a single-phase transformer, loaded with lagging power factor load. [05]
- Q.6. Draw the circuit diagram of a half-wave rectifier and explain its operation with the help of waveforms. [05]
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