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Code No. : 14106 ET O2

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (Civil Engg.) II Year II-Semester Old Examinations, May-2018

Electrical Technology

Time: 1½ hours

Max. Marks: 35

Note: Answer ALL questions in Part-A and any Three from Part-B

Part-A (11 Marks)

1. State Ohm's Law. Under what circumstances does it apply? [1]
2. In an ideal transformer how is ratio of primary to secondary voltage related to ratio of primary to secondary turns. [1]
3. What are various types of induction motors? [1]
4. State kirchoff's voltage law and Kirchoff's current law. [2]
5. What is the purpose of conducting short circuit test and open circuit test of a transformer? [2]
6. How is rotating magnetic field produced? [2]
7. How much power is dissipated in a resistive element as heat? [2]

Part-B (3 × 8 = 24 Marks)

(All sub-questions carry equal marks)

8. a) Explain what you understand by power factor, active and reactive power.
b) Three coils each having a resistance of 5 ohm and inductive reactance of 15 ohm are connected in delta and fed from a 415 V, 50Hz, three phase a.c. supply. Calculate (i) line current.
(ii) Power consumed (iii) power factor.
9. a) Explain what is regulation and how it will be derived for an inductive load in a transformer?
b) How is the equivalent circuit of a transformer obtained?
10. a) What are synchronous speed and slip of an induction motor?
b) Explain the coefficient of utilization of a light fitting.
11. Answer any *two* of the following:
 - a) Give an expression for power in a balanced three phase circuit.
 - b) How do you define and derive efficiency of a transformer?
 - c) What are important features of slip torque characteristics of an induction motor?

