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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B.Tech II Year I Semester Examinations, December-2014
ELECTRICAL AND ELECTRONICS ENGINEERING
(Common to CE, ME, AME, PTE, MSNT)

Time: 3 hours   Max. Marks: 75

Answer any five questions
All questions carry equal marks
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1.a) Define Ohm's law and Kirchhoff's laws.
  b) Determine star-delta and delta star transformation equations.

2.a) Derive the emf equation of dc generator.
  b) Explain different types of DC motors and their applications.

3.a) Explain the operation of single phase transformer.
  b) Define efficiency and regulation of a transformer. Give the expressions for efficiency and regulation of transformer interms of power factor.

4.a) Explain the principle of operation of three phase induction motor.
  b) Explain slip-torque characteristics of induction motor.

5.a) Explain the torques necessary for the operation of indicating instruments.
  b) Explain the operation of moving iron instrument.

6.a) Explain the operation of p-n junction diode with its symbol and characteristics.
  b) Explain the operation of half wave bridge rectifier.

7.a) Explain the operation of PNP and NPN junction transistors.
  b) Discuss SCR characteristics and its applications.

8.   Explain in detail about the operating principle of Cathode Ray Tube. Explain deflection mechanism in detail.

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