Code No: T0222 **R07** SET - 1

**II B. Tech II Semester Supplementary Examinations, April/May - 2017**
**ELECTRICAL MACHINES - II**
(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 80

Answer any **FIVE** Questions
All Questions carry **Equal** Marks
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1. a) Draw the no load phasor diagram of a transformer. Explain.
   b) Explain how hysteresis and eddy current losses are minimised (8M+8M)

2. a) A 100 kVA , 2200/440 V transformer has $R_1$=0.3 Ω ; $X_1$=1.1 Ω ; $R_2$=0.01 Ω and $X_2$=0.035Ω. Calculate (i) The equivalent impedance of the transformer referred to the primary and (ii) total copper losses.
   b) Discuss about All day efficiency of a transformer. (10M+6M)

3. a) Explain the parallel operation of single phase transformers with equal and unequal voltage ratios
   b) Why short circuit test is conducted. Explain its important features. (10M+6M)

4. a) Explain the construction and working of 3 winding transformer.
   b) Explain star/delta and delta/delta connections of a transformer. (8M+8M)

5. a) A 6-pole alternator running at 1000 r.p.m. supplies an 8-pole induction motor. Find the actual speed of the motor if the slip is 2.5% .
   b) Discuss about production of rotating magnetic field in 3-phase induction motor. (8M+8M)

6. a) Explain about different power stages in 3-phase induction motor.
   b) Discuss about torque slip characteristics of 3-phase induction motor. (8M+8M)

7. a) Explain the operation of a 4- point starter with a neat circuit diagram
   b) List the important conclusions that can be made from the circle diagram of an Induction motor. (8M+8M)

8. a) Explain how consequent poles method is performed in 3-phase induction motors.
   b) Discuss the principle of operation of induction generator. (8M+8M)
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