

24225

B. Tech. 5th Semester (F) Scheme (EE)

Examination, December-2018

ELECTRICAL MACHINE-II

Paper-EE-311-F

Time allowed : 3 hours]

[Maximum marks : 100

- Note :**
- (i) **Section-A is compulsory.**
 - (ii) **Attempt four more questions by selecting at least one question from each Section-B,C,D and E.**
 - (iii) **Use of non programmable scientific calculator is allowed.**

Section-A

1. (a) Define slip in Induction Motor. 5
- (b) Discuss, how the rotation of 1- ϕ Induction motor be reversed? 5
- (c) What do you mean by Pitch factor? 5
- (d) Differentiate between Synchronous and Induction motor. 5

Section-B

2. Discuss and explain the equivalent circuit of 3- ϕ Induction motor. 20
3. Explain the methods of speed control of 3- ϕ Induction motor in detail. 20

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Section-C

4. Is single phase Induction motor is self starting or not ? Explain with the help of Double field revolving theory. 20
5. Discuss various starting methods of 1- ϕ Induction motor. 20

Section-D

6. Define voltage regulation for Synchronous Generator. Explain synchronous reactance method of finding voltage regulation in detail. 20
7. Calculate R.M.S. value of Induced e.m.f per phase of a 10 pole, 3-phase, 50 Hz alternator with 2 slots per pole per phase and 4 conductors per slot in two layers. The coil span is 150°. The flux per pole has a fundamental component of 0.12 Wb and a 20% third component. 20

Section-E

8. Explain the effect of excitation on Armature current and power factor and hence draw the V curves. 20
9. Write short note on : 20
 - (a) Damper Winding
 - (b) Synchronous Condenser

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