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Question Paper Code: 34302

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fourth Semester

Electrical and Electronics Engineering

01UEE402 - AC MACHINES

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Compare the types of rotor in three phase induction motor.
2. Why are the rotor slots of a 3 phase induction motor skewed?
3. Define cogging.
4. Define crawling.
5. Define distribution factor.
6. What is meant by armature reaction?
7. Define hunting.
8. What is V curve?
9. List the starting methods of single phase induction motor.
10. Name the motor being used in ceiling fans.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Derive an expression for the torque of an induction motor and obtain the maximum torque. (8)
- (ii) Derive the torque slip characteristics of three phase induction motor and explain. (8)

Or

- (b) Draw the torque-slip characteristics of a three phase induction motor at different rotor resistances. (16)
12. (a) Describe with neat diagram, the principle and working of an Auto transformer starter in three phase induction motor. (16)

Or

- (b) Explain any two speed control method of three phase induction motor. (16)
13. (a) Derive a generalized expression for emf equation of an alternator. (16)

Or

- (b) Explain Blondel's two reaction theory for salient pole machines. (16)
14. (a) Explain the working principle and operation of synchronous motor. (16)

Or

- (b) Explain the various methods of suppressing hunting. (16)
15. (a) (i) Explain linear induction motor. (8)
- (ii) Explain Hysteresis motor. (8)

Or

- (b) Describe the constructional features and principle of linear induction motor. (16)
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