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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (EE) PT (Sem.-3)
ASYNCHRONOUS MACHINES
Subject Code : BTEE-401
M.Code : 72163

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt **ANY FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt **ANY TWO** questions.

SECTION-A**Answer briefly :**

- Q1 Give analogy between transformer and three phase induction motor.
- Q2 State Lenz law.
- Q3 How iron losses in machines can be reduced?
- Q4 What is purpose of using deep bar cage rotors?
- Q5 What is working principle of shaded pole induction motor?
- Q6 Why induction motor draws heavy current as compared to full load current at starting?
- Q7 What is the use of slip ring induction motor?
- Q8 Give the applications of capacitor start single phase induction motor.
- Q9 What is cogging?
- Q10 What is the use of double cage induction motors?

SECTION-B

- Q11 Describe the construction of a double cage induction motor. Explain its working.
- Q12 Draw and Explain the push button operated DOL starter.
- Q13 Explain the working principle of a single phase induction motor with the help of double Revolving field theory.
- Q14 Explain the construction & working of universal motor.
- Q15 Why an induction generator is not a self-excited generator? How does an isolated induction generator works?

SECTION-C

- Q16 A 3-phase induction motor has a 4 pole, Y connected star winding. The motor runs on 50Hz Supply with 200V between lines. The motor resistance and standstill reactance per phase are 0.1 ohm and 0.9 ohm respectively, is equal to. Calculate the maximum torque & the starting torque.
- Q17 Explain the different speed control methods used in three phase induction motors.
- Q18 Explain the procedure of no load test and blocked rotor test on a three phase induction motor. How are the parameters of equivalent circuit determined from test results?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.