

B.Voc (Mechatronics)
Subject: Electrical Machines and Control System
Subject Code: EE-603
Semester: Third
Session: September 2022
Theory (External): 35 Marks
Time: 03 Hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of short answers type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answersheets provided.
5. Do not write anything in the question paper.
6. Whenever necessary, the diagram drawn should be neat and properly labeled

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SECTION – A (OBJECTIVE TYPE QUESTIONS)
(10 × 1 = 10Marks)

- A. Name Different types of starters.
- B. What are the applications of DC motor?
- C. What are the advantages and disadvantages of Induction Motors?
- D. Why synchronous motor is not self-starting?
- E. What are the methods of starting synchronous motor?
- F. Why damper windings are used in synchronous motor?
- G. Methods to control speed of Wound Rotor Motors?
- H. What is the condition for maximum torque in induction motor?
- I. What Is Transfer Function?
- J. What are linear and non-linear systems?

SECTION – B (ESSAY TYPE QUESTIONS)
(5× 5 = 25 Marks)

1. Explain Principle, construction and working of DC Motor
2. Explain different type characteristics of generators
3. Draw the equivalent circuit of induction motor as a transformer.
4. Explain Slip –Torque Characteristics of 3-phase induction motor.
5. Explain the different starting method of Synchronous motor.

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6. Explain the constructional features EMF equation of synchronous Machine.
7. Explain the open loop and closed loop control system with example.
8. Write a short note on the following:
 - a) Temperature control
 - b) Traffic Control

END OF PAPER