

S. B. Roll. No.....

**ELECTRICAL MACHINES**  
**3<sup>rd</sup> Exam/ECE/6189/Jun'2021**  
**(For 2018 Batch onwards)**

**Duration: 1.15Hrs.**

**M.Marks:25**

**SECTION-A**

**Q1. Attempt any three questions.**

**3x5=15**

- i. What are the advantages of three phase system over single phase system?
- ii. Explain Faraday's law of Electromagnetic induction
- iii. What are electromechanical energy conversion devices? Explain them with block diagram.
- iv. Deduce an expression for condition of maximum efficiency in transformer?
- v. Explain with diagram Single phase induction motor.
- vi. Explain the function of Commutator in a D.C. motor?
- vii. What is universal motor? Explain its working.

**SECTION-B**

**Q2. Attempt any one question.**

**1x10=10**

- a. Explain any two methods of measurement of power in three phase circuits.
- b. Explain the principle of operation of a synchronous motor.
- c. What is stepper motor? Explain the construction and working of a permanent magnet (pm) stepper motor.
- d. What is a transformer? Explain with diagram the classification of transformers on the basis of their construction.
- e. Explain different types of losses found in Transformers?