

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech. (Electrical Engineering) (2018 Batch) (Sem.-4)**  
**ELECTRICAL MACHINES-II**  
Subject Code : BTEE-402-18  
M.Code : 77607

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**

**1. Answer the following in short :**

- a) What is Distribution Factor?
- b) What is active portion and what is overhang in the coils?
- c) What is Revolving Magnetic Field?
- d) What is MMF?
- e) What is the function of stator and rotor in the machine?
- f) What information we get from power flow diagram?
- g) What is Voltage Regulation?
- h) What do you understand from self excitation?
- i) What is Zero Power Factor?
- j) What is Alternator?

## SECTION-B

2. Explain and show the physical arrangement of windings in stator and cylindrical rotor. What is the difference between concentrated winding and distributed windings?
3. What is the difference between constant magnetic field and pulsating magnetic field? Explain the pulsating magnetic field produced by spatially displaced windings.
4. What is Squirrel Cage Motor? Explain torque slip characteristics of induction machine.
5. Explain methods of starting and braking of induction machine.
6. Give equivalent circuit and phasor diagram of synchronous machine. Also discuss armature reaction at different power loads.

## SECTION-C

7. What is Synchronous Machine? What are its constructional features? Explain the operating characteristics of synchronous machine. Also explain the V-curves and inverted-V curves. What is hunting?
8. Explain the following :
  - a) Parallel operation of alternators
  - b) Doubly fed induction machine
9. What are Pulsating and Revolving Magnetic Fields? Explain the magnetic field produced by single winding both for fixed current and alternating current. If the windings are spatially shifted by 90 degrees.