BTH/M-20   **34069**

ELECTRICAL MACHINES-II

ET-204

Time : Three Hours]   [Maximum Marks : 75

Note: Attempt any *Five* questions.

1. (a) Derive and explain the generated emf in full pitched coil.   **8**

  (b) Magnetic field is rotating or stationary. Justify your answer with brief explanation.   **7**

2. (a) Draw and explain the rotor construction of three phase induction motor. Explain the differences between the two types of design.   **8**

  (b) Derive torque equation for a three phase induction motor. Explain torque slip curve with all parameters in brief.   **7**

3. (a) Explain star delta method for starting of three phase induction motor.   **8**

  (b) Discuss the working of deep bar and double cage induction motor.   **7**

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4. (a) Explain the cogging and crawling of three phase squirrel cage induction motor with the help of diagrams. **8**

(b) What do you mean by induction generator ? Explain its principle, operation and applications.

5. (a) Draw the equivalent circuit of a single phase induction motor, neglecting ore loss, at no-load condition and explain. **8**

(b) Explain shaded pole induction motor in brief.

6. (a) What do you mean by capacitor start induction machine ? Explain it with circuit diagram and characteristics. **8**

(b) What do you mean by salient pole synchronous motor ? Draw and explain the phasor diagram at various power factor. **7**

7. (a) Describe the hunting phenomenon in synchronous machines. What are the causes of hunting ? What is the role of damper winding ? **8**

(b) Draw and explain V-curves of a synchronous machine. **7**

8. (a) Explain the role played by synchronising during parallel operation of alternator. **8**

(b) Explain Blondel's two reaction theory for the salient pole synchronous machine. **7**

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