

Total No. of Printed Pages:2

**SUBJECT CODE NO:- H-204**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**S.E. (Mech/Prod)**  
**Electrical Machine & Applied Electronics**  
**(OLD)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B I. Q.No.1 from section A and Q.No.6 from section B are compulsory.  
 II. Solve any two questions from the remaining in each section.

**Section A**

- Q.1 Attempt any five 10  
 a) What are the different types of DC motors?  
 b) What are selection criteria for traction motor?  
 c) Draw the chopper circuit for speed control of DC motor.  
 d) What is regenerative braking?  
 e) Draw the construction of universal motor.  
 f) What are the advantage of electrical motor drives?  
 g) Define back EMF & state its significance.  
 h) What is synchronous speed?
- Q.2 a) Give the comparison between electric breaking and mechanical breaking. 07  
 b) Give details classification of electrical drives. 08
- Q.3 a) Explain the multi motor drive system with suitable example. 07  
 b) Draw & explain torque-slip characteristics of three phase induction motor. 08
- Q.4 a) Draw and explain 3-point states for DC motors. 07  
 b) Draw and explain construction of squirrel cage motor. 08
- Q.5 Write short notes on any three. 15  
 a) Necessity of starter in DC motor with suitable example.  
 b) Explain starters of induction motor  
 c) V/F control of AC motors  
 d) Shaded pole motor

**Section B**

- Q.6 Attempt any five 10  
 a) What is sensor and its types?  
 b) What is MOSFET?  
 c) Why sequential timer circuit is used?  
 d) Give detail classification of sensor.

- e) What is see-back effect?
  - f) What is need of buzzer and alarms?
  - g) What is solenoid valves.
  - h) What is relay? What are its types?
- Q.7 a) Give the detail classification of actuators. 07  
 b) Explain in details working principle of light dimmer circuit. 08
- Q.8 a) Differentiate MOSFET and SCR. 07  
 b) What is heat sink & explain causes and effect of heat sink? 08
- Q.9 a) Explain protection circuits in Industrial electronics. 07  
 b) What are the types of load cells? Explain construction & working. 08
- Q.10 Write short notes on any three. 15  
 a) Piezo sensors  
 b) Shaft encoder decoder  
 c) Sequential timer circuit  
 d) DIAC