

## FACULTY OF ENGINEERING

SE (M/P) Examination - DEC - 2014

## ELECTRICAL MACHINES AND APPLIED ELECTRONICS- Rev

[Time: THREE Hours]

[Max. Marks: 80]

"Please check whether you have got the right question paper."

- i) Q.no 1 and Q. no 6 are compulsory.
- ii) Solve any two questions from remaining in each section.
- iii) Assume suitable data wherever necessary.

## SECTION A

- Q 1 Solve any five questions. (10)
- A How cooling of DC motor is carried out?
  - B What are the advantages of electric motor drives?
  - C Explain the starting mechanism of DC motor.
  - D Enlist the breaking methods for DC motors.
  - E Explain the working principle of 3-phase induction motor.
  - F Draw slip-torque characteristics of 3- phase induction motor
  - G Draw the construction of universal motor
  - H Enlist the speed control methods of 3-phase induction motor
- Q2 A Explain the groups drive with suitable example. (07)  
B What are the different criteria to select electric drives for particular applications? Explain in detail. (08)
- Q3 A What are the different speed control methods of DC motors? Explain rheostat control method in detail. (07)  
B Draw and explain 3-point states for DC motors. (08)
- Q4 A Draw and explain the construction of squirrel cage motor. (07)  
B Explain DC servomotors. (08)
- Q5 Write short note on (15)  
a) V/F control for AC motors      B) Stepper motor      c) Phase control method for DC motors

## SECTION-B

- Q6 Solve any five questions. (10)
- A What is operating principle of airflow sensor?
  - B Give the applications of load cells.
  - C Define actuators.
  - D What is relay? What are its types?
  - E Draw opto coupler
  - F Draw V-I characteristics of TRIAC.
  - G Enlist the protection circuits for thyistor.
  - H What is heat sink? Why it is used?
- Q7 A Define sensors? Enlist its applications. Explain any one in detail. (07)  
B What is seeback effect? Explain the cold function and hot junction. (08)
- Q8 A Give the classification of actuators. Explain LCD displays. (07)  
B Draw the construction of solenoid valve also explain its operation. (08)
- Q9 A Explain the construction of MOSFET. (07)  
B Explain flash circuit in detail. (08)
- Q10 Write a short note on (15)  
A Shaft encoder decoder  
B Buzzers and alarms  
C Sequential timer circuit