

**SUBJECT CODE NO:- P-305**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**S.E. (Mech/Prod) Examination MAY/JUNE-2016**  
**Electrical Machine & Applied Electronics**  
**(Revised)**

[Time: Three Hours]

[Max Marks:80]

“Please check whether you have got the right question paper.”

N.B

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

**Section A**

- Q.1 Solve any five questions 10
- a) Enlist the parameters consider to select the electric drives for particular applications.
  - b) Give classification of electric drives.
  - c) What are the speed control methods of DC motors?
  - d) What is synchronous speed?
  - e) Draw the construction of series DC motor.
  - f) What are the applications of stepper motor?
  - g) What is regenerative braking?
  - h) Explain brushless DC motor.
- Q.2 07
- a) Explain the selection criteria's for electric drive in cement industries.
  - b) Write a short note on cooling and heating of electric motors. 08
- Q.3 07
- a) What is working principle of DC motors? Explain DC shunt motor.
  - b) Draw and explain the speed torque characteristics of DC motors. 08
- Q.4 07
- a) What are the types of 3- phase induction motor? Explain any one in detail.
  - b) Explain the starters for induction motor. 08
- Q.5 Write a short note on 15
- a) Cooling and heating of DC motors.
  - b) Conventional speed control methods for DC motors.
  - c) Torque – slip characteristics of induction motor.

**Section B**

- Q.6 Solve any five questions 10
- a) Give the detail classification of sensors.
  - b) Enlist any four applications of sensors.
  - c) What is see-beck effect?
  - d) Compare 7- segment display and LCD display.
  - e) Why buzzers and alarms are used? Explain.
  - f) Draw the construction of relay.
  - g) Explain the working principle of light dimmer.
  - h) Draw symbols of SCR, TRIAC, MOSFET and DIAC.
- Q.7 07
- a) What are the types of load cells? Explain the construction and working.
  - b) Define sensor. Give its detailed classification. Also explain selection criteria. 08

Q.8	a) With neat diagram explain optocoupler.	07
	b) What are the types of different displays? Explain any one in detail.	08
Q.9	a) Draw and explain the V- I characteristics of SCR.	07
	b) How temperature controller is designed? Explain.	08
Q.10	Write a short note on	15
	a) Proximity switch	
	b) Solenoid valves	
	c) Heat sink.	