

FACULTY OF ENGINEERING & TECHNOLOGY
S.E.(Mech/Prod) Year Examination-June-2015
Electrical Machine and Applied Electronics.
(Revised)

Time: Three Hours

Maximum 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 question in each section.
- iii) Assume suitable data wherever necessary.

SECTION-A

Q.1	Solve <u>any five</u> questions.	10
	<ol style="list-style-type: none"> a) Give classification of electric devices. b) Explain the breaking of DC motors. c) Enlist any four applications of electrical drives in industries? d) What are the advantages of electrical motor drives? e) Draw a chopper circuit for speed control of DC motors. f) Explain the working principle of DC motors. g) What is slip? h) Write a torque equation for 3- phase induction motor. 	
Q.2	<ol style="list-style-type: none"> a) Give the comparison between electric and mechanical drives. b) Explain the multi motor drive system with suitable example. 	07 08
Q.3)	<ol style="list-style-type: none"> a) Draw and explain the construction of shunt DC motors. b) Compare and contrast the electrical and mechanical braking methods of DC motors. 	07 08
Q.4	<ol style="list-style-type: none"> a) Draw and explain torque – slip characteristic for 3- phase induction motor. b) Why is the 1- phase induction motor is not self starting? Give the remedy methods. 	07 08
Q.5	Write short notes on <ol style="list-style-type: none"> a) DC servomotors b) Slip power recovery scheme c) Speed control methods for DC motors. 	15
	SECTION-B	
Q.6	Solve <u>any five</u> question <ol style="list-style-type: none"> a) Define sensor. b) Give the selection criteria for sensors. c) Explain piezo – electric effect. d) Draw opto coupler. e) Give the classification of actuators. f) Compare 7-segment display and LCD display. g) Why sequential timer circuit is used. h) Draw V-I characteristics of SCR. 	10
Q.7	<ol style="list-style-type: none"> a) What are different temperature sensors? Explain thermocouple in detail. b) Write a short note on LVDT and LDR. 	07 08
Q.8	<ol style="list-style-type: none"> a) With the help of neat diagram, explain the construction and working of Relays. b) Explain various types of buzzers and alarms. 	07 08
Q.9	<ol style="list-style-type: none"> a) How heat can be dissipated using heat sinks? Explain in detail. b) Explain temperature controller. 	07 08
Q.10	Write short notes on <ol style="list-style-type: none"> a) Load cells b) Actuators c) TRIAC 	15