Total No. of Printed Pages:2

SUBJECT CODE NO:E-101
FACULTY OF ENGINEERING AND TECHNOLOGY
S.E.(Mech/Prod) Examination Nov/Dec 2017
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 form section A and Q. No.6 from section B are compulsory.
ii. Solve any two questions from remaining in each section.

Section A

Q.1 Attempt any five 10

a) Explain the working principle of DC motors
b) What is slip?
c) What are the applications stepper motor?
d) What is regenerative braking?
e) Draw the construction of universal motor.
f) Enlist the speed control method of 3-phase induction motor.
g) Define back EMF & state its significance.
h) How cooling of DC motor is carried out?

Q.2 a) Give the comparison between electric and mechanical drives 07

b) Explain the multi motor drive system with suitable example. 08

Q.3 a) Explain the selection criteria's for electric drive in cement industries. 07

b) Write a short note on cooling and heating of electric motors 08

Q.4 a) Draw and explain 3-points states for DC motors 07

b) Draw and explain the construction of squirrel cage motor. 08

Q.5 Write short notes on any three. 15

a) DC servomotors
b) Slip power recovery scheme.
c) Stepper motor
d) Application of electric drive for steel mill.

Section B

Q.6 Attempt in **five** 10

a) What is SCR?
b) Compare 7-segment display an LCD display.
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) Draw the symbol of SCR, TRIAC, MOSFET
h) What is relay? What are it types?

Q.7 a) Give the details classification of actuators. 07

b) Explain in details working principle of Transistor. 08

Q.8 a) Explain in details 7 segment display 07

b) What is heat sink & explain causes and effect of heat sink 08

Q.9 a) Explain temperature controller 07

b) What are the types of load cells? Explain construction & working 08

Q.10 Write a shorts notes on any **three** 15

a) Proximity switch
b) Opt coupler
c) LCD display
d) MOSFET