Total No. of Printed Pages:02

SUBJECT CODE NO:- H-204
FACULTY OF ENGINEERING 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) Necessity of starter in DC motor
b) What are selection criteria for motor still mill industries?
c) Explain working principle of DC motor.
d) What is rheostatic breaking?
e) Draw the construction of stepper motor.
f) What are the applications of universal motor?
g) Define back EMF & state its significance.
h) What is slip?

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 construction of DC machines. 07
b) Draw & explain torque-slip characteristics of three phase induction motor. 08

Q.4 a) Draw and explain 4-point starter for DC motors. 07
b) Draw & explain construction of slip ring induction motor. 08

Q.5 Write short notes on any three. 15
a) Cooling and heating of DC motor
b) Explain the starters of induction motor
c) V/F control of AC motors
d) Group drives

Section B

Q.6 Attempt any five 10

a) What is operating principle of airflow sensor?
b) What is SCR?
c) Why sequential timer circuit is used?
d) Give application of sensor explain any one of them.
e) Draw V-I characteristics of DIAC.
f) Draw opto coupler.
g) What is solenoid valves?
h) What is relay? What are its types?

Q.7 a) Give the detail classification of sensor. 07
b) Explain in details working principle of light dimmer circuit. 08

Q.8 a) Differentiate TRIAC and DIAC. 07
b) Explain in details working principle of transistor. 08

Q.9 a) Explain in details 7 segment display. 07
b) What are the types of load cells? Explain construction & working. 08

Q.10 Write short notes on <u>any three</u>. 15

a) Construction of relay
b) Shaft encoder decoder
c) Sequential timer circuit
d) MOSFET