

18/10/13

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B.E. / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2013

Common to Mechanical / Manufacturing / Printing / Mining

19

Third Semester

EE 292 / EE 9211 – ELECTRICAL DRIVES AND CONTROL

(Regulation 2008)

Time : 3 Hours

Max. Marks : 100

Answer ALL Questions

PART – A (10 X 2=20 Marks)

1. What are the factors involved in selection of motors?
2. Give the advantages of MCCB over Fuses.
3. Draw various characteristics of DC series motor.
4. What is purpose of using chopper circuits?
5. Draw the speed torque characteristics of Induction motor.
6. What is meant by slip power recovery?
7. What is the need for starters?
8. What is the use of sensing relays in starters?
9. What is meant by overload capacity?
10. List out various types of insulating materials.

PART – B (5 X 16 =80 Marks)

11. Derive the expression for heating curve and cooling curve with neat diagram and suitable assumptions. (16)

12. (a) Explain various types of Mechanical Load with neat diagram. (16)

(Or)

(b) Draw and explain various types of contactors and relays. (16)

13. (a) Explain in detail about speed control of DC shunt motor using ward leonard method and DC series motor using series parallel control method. (16)

(Or)

(b) Explain the various types of three phase rectifier circuits with suitable diagrams. (16)

14. (a) Explain how the speed of induction motor is controlled using pole changing method and rotor resistance variation method. (16)

(Or)

(b) Explain in detail about three phase inverter circuit with 180° conduction mode with neat diagram. (16)

15. (a) Explain in detail about DC motor starters using voltage sensing relays and time delay relays with neat diagram. (16)

(Or)

(b) Explain the starting of induction motor using auto transformer starters and DOI -starters with neat diagram. (16)