AU – 2668

Fifth Semester B. E. (Electrical Engg.) Examination

ELECTRICAL DRIVES

Elective – I

Paper – 5 FEP 05 / 5 EX 05 / 5 EE 05 / 5 EL 05

(USC – 10556)

P. Pages : 3

Time : Three Hours] [Max. Marks : 80

Note : (1) Separate answer book must be used for each section in the subject Geology, Engineering material of Civil branch and separate answer book must be used for Section A and B in pharmacy and Cosmetic Tech.
(2) Answer **Three** questions from Section A and **Three** questions from Section B.
(3) Due credit will be given to neatness and adequate dimensions.
(4) Illustrate your answer wherever necessary with the help of neat sketches.
(5) All questions carry marks as indicated.
(6) Use pen of Blue / Black ink / refill only for writing the answer book.

SECTION A

1. (a) Explain with the help of Block diagram working of electric drives. 7

   (b) Explain steady state stability of drives. 7

OR

2. (a) Give classification and components of load torque. 7

   (b) What are the merits and demerits of AC and DC drives ? 7

3. (a) Explain in detail Regenerative braking for DC motor. 7

   (b) Explain plugging method of braking for D. C. motor. 6

OR

4. (a) Explain rheostatic braking for induction motor. 7

   (b) State and explain important features of various braking method for three phase induction motor. 6

5. (a) Explain single phase fully controlled converter for separately excited D. C. motor. 7

   (b) Discuss the advantages and disadvantages of close loop control over open loop control of the drive. 6

OR

6. (a) Draw and explain operation of three phase fully controlled convertor feeding power to a seperately excited DC motor with voltage and current waveforms. 7

   (b) Explain chopper control of separately excited d. c. motor with motoring control. 6

SECTION B

7. (a) Explain the v/f control method for induction motor. 7

   (b) Explain voltage source inverter (VSI) fed induction motor drive with merits and demerits. 6

OR

8. (a) Explain current source inverter (CSI) fed induction motor drive. 7

   (b) Compare voltage source inverter (VSI) and current source inverter (CSI). 6

9. (a) Explain rotor resistance starting of induction motor drive. 7

   (b) Discuss in detail, the determination of power rating of motor. 6

OR

10. (a) Explain the method of determination of motor rating for short time delay loads. 7

(b) Explain heating and cooling, thermal resistance of induction motor. 6

11. (a) Explain the operation of Rolling Mills. 7

(b) Explain the process and drives used in textiles mills. 7

OR

12. (a) Explain construction and working of commutator D. C. motor. 7

(b) Explain construction, working principle and application of stepper motor. 7