EE

C 46683

Name .....

Reg. No .....

EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
JUNE 2008

EE 04 802—INDUSTRIAL DRIVES

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

Answer **all** *questions.*

I. (a) Explain the block diagram of a typical electric drive.

(b) What are the three types of d.c. drives based on their input supply ?

(c) What is two-quadrant d.c. drive ?

(d) Write a note on solar powered drives.

(e) Where step up chopper is used ?

(f) Explain the concept of V/f control.

(g) How brushless d.c. motor drives work ?

(h) What are the characteristics of varistors ?

(8 × 5 = 40 marks)

2. (a) Give the open loop block diagram of separately excited d.c. motor drive. Explain the block diagram and derive the important parameters involved.

Or

(b) Give the schematic for the PLL control of electric drives and explain the principle involved.

3. (a) Draw the circuit of a single-phase dual converter d.c. drive and discuss the operation. What are the performance parameters ? How they are assessed ?

Or

(b) Write a detailed note on breaking of d.c. motors using rectifiers and choppers.

4. (a) With suitable diagrams, explain the principle of VSI fed induction motor drive. Discuss the features.

Or

(b) Give the schematic of a PWM drive. What are the advantages of PWM ?

5. (a) With schematic diagram and flow charts, explain the principle of Microprocessor control of D.C. and A.C. drives.

Or

(b) With necessary derivations, obtain steady state torque-load angle characteristics of salient pole synchronous machine.

(4 × 15 = 60 marks)