Total No. of Questions : 8] [Total No. of Printed Pages : 2

Roll No. .....

MEPE–205(A)

M. E. (Second Semester) (Electrical Engg.) EXAMINATION, July/August, 2008

(Power Electronics)

INSTRUMENTATION IN ELECTRIC DRIVES

[MEPE–205(A)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Classify and explain different types of error and discuss also the means adopted to minimise these errors. 10
   (b) Write basic principle of operation and construction of the following : 10
   (i) Piezoelectric type torque transducer
   (ii) Strain gauge type torque transducer

2. (a) Explain operation and application of isolation amplifier. 10
   (b) Write working principle and application of magnetic pickup. 10

3. (a) How will you convert frequency to voltage ? Explain with the help of a block diagram. 10

P. T. O.

   (b) Discuss in brief the following : 10
   (i) Timer
   (ii) Magnetic isolator

4. (a) Write the operation, advantages and disadvantages of sample and hold circuit. 10
   (b) Write the basic principle of operation and working of Analog multipliers. 10

5. (a) Explain with the help of block diagram digital to analog converter. 10
   (b) Discuss in brief data acquisition system. 10

6. Write working, advantages and disadvantages of Dual Slope A-D converter. 20

7. (a) Explain with example phase lock loop control. 10
   (b) Discuss the working of analog dividers. 10

8. Write short notes on any *two* of the following : 20
   (a) Measurement accuracy
   (b) Function generators
   (c) Optical isolator
   (d) Multiplexed ADC