

Printed Pages—2

EEN021

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2501

Roll No.

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B. Tech.**(SEM. VI) THEORY EXAMINATION 2010-11
MECHATRONICS**

Time : 2 Hours

Total Marks : 50

Note : Attempt all questions.

1. Attempt any four of the following : (3.5×4=14)
- (a) Describe the technique used to measure displacement using a transducer. Discuss about the instrument in detail.
 - (b) Describe the instrumentation used for sensing proximity. Where is such arrangement used ?
 - (c) Describe a pressure transducer in detail.
 - (d) How is the level of liquid measured ?
 - (e) With the help of a schematic diagram explain the data acquisition system. Also discuss its fields of application.
 - (f) What are the roles of filtering and amplification of signals in signal conditioning ?
2. Attempt any four of the following : (3×4=12)
- (a) Compare and contrast the direction control valve with the pressure control valve.

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- (b) Explain the role of kinematic chain, cams and gear-train in the working of a mechanical actuation system.
 - (c) Write about dampers and its types bringing about the difference between them.
 - (d) Compare the static switches with solenoid operated switches in detail.
 - (e) What do you understand by Electric Drive system? Explain its working along with field of its applications.
 - (f) With the help of neat sketch, explain the working and application of Servo mechanism.
3. Attempt any two of the following : (6×2=12)
- (a) Explain the pin diagram of a Microprocessor.
 - (b) What do you understand by Microcontrollers? How do they differ from Microprocessor?
 - (c) Discuss about PLC in detail.
4. Write detailed notes on any two of the following : (6×2=12)
- (a) Control of Industrial Robots.
 - (b) Control of Automobile Engines.
 - (c) What are the functions of NC machine? Discuss about its operating principle in detail.