

Con. 5757-09.

T.E. (EXTC) Sem VI
 Electronic Instrumentation
 (3 Hours)

SP-8105

19/12/09

[Total Marks : 100

2.30 to 5.30

- N.B. : (1) Question No. 1 is compulsory.
 (2) Attempt any four questions out of remaining six questions.
 (3) Draw neat sketches wherever necessary.
 (4) Assume suitable data if required with justification.

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| 1. | Write notes on (any two) :- | 20 |
| | (a) Analog to digital converters | |
| | (b) Data loggers | |
| | (c) ISA Logic symbols. | |
| 2. | (a) Explain the different dynamic characteristics of measurement systems. | 10 |
| | (b) With a neat diagram, explain the various components of a digital data acquisition system. | 10 |
| 3. | (a) What are neural networks ? Explain feedforward neural network. List the various applications of neural networks. | 10 |
| | (b) Explain the method for measurement of vibrations. | 10 |
| 4. | (a) Explain how the basic strategy of control is employed in a room air-conditioning system. What is the controlled variable ? What is the manipulated variable ? Is the system self-regulating ? | 10 |
| | (b) Explain the different methods used for measurement of humidity. | 10 |
| 5. | (a) Explain the various uses of capacitive transducers. | 10 |
| | (b) What are relay sequencers ? Explain hardwired programming. What is the use of patch panels ? | 10 |
| 6. | (a) Describe the factors that govern the choice of transducers for a given application. | 10 |
| | (b) Describe the elements of fuzzy logic. Explain any one application where fuzzy controller is used. | 10 |
| 7. | (a) Explain the different control system parameters. | 12 |
| | (b) Explain supervisory control. | 8 |