

Con. 4539-05.

(REVISED COURSE)

PR-4856

(3 Hours)

[ Total Marks : 100

N.B. (1) Question No. 1 is compulsory.

(2) Attempt any four out of remaining six questions.

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| 1. | Answer the following questions :-   | 20 |
|    | (a) State the advantages of LVDT.   |    |
|    | (b) What is load cell ? Where it is used ?  |    |
|    | (c) Explain any three basic characteristics of measuring device.  |    |
|    | (d) What is the need of digital data acquisition system.  |    |
| 2. | (a) What are the different methods of flow measurement ? Describe any two methods in detail.                            | 10 |
|    | (b) Explain construction, working and applications of LVDT.   | 10 |
| 3. | (a) What do you mean by data acquisition system. Explain generalised data acquisition system with neat diagram.         | 10 |
|    | (b) Explain single channel and multichannel data acquisition system.  | 10 |
| 4. | (a) Explain different methods for tuning of PID controllers.  | 10 |
|    | (b) What is neural network ? What are the different methods of training a neural network ?                              | 10 |
| 5. | (a) What is Fuzz control ? Describe elements of fuzzy logic. State the advantages and disadvantages of fuzz controller. | 10 |
|    | (b) Explain working of a PID controller, state advantages of PID controller over other controllers.                     | 10 |
| 6. | (a) What is a PLC ? Describe its block diagram and explain in detail the different modules.                             | 10 |
|    | (b) Explain principle, construction and working of a resistance thermometer.  | 10 |
| 7. | Write short notes on any two :-   | 20 |
|    | (a) Data logger.  |    |
|    | (b) Ladder diagram.   |    |
|    | (c) Supervisory control.  |    |