

Con. 3006-07.

[REVISED COURSE]

ND-563

(3 Hours)

[Total Marks : 100]

- N.B. (1) Question No. 1 is compulsory.
(2) Attempt any four out of remaining six questions.

1. Write short note on the following :- 20
 - (a) Piezoelectric transducer
 - (b) Transducer for level measurement
 - (c) Hair hygrometer
 - (d) Tuning of PID controller
 - (e) Neural network.

2. (a) Explain construction, working and application of LVDT. What is residual voltage ? 10
(b) Write short note on vibration measurement. 10

3. (a) What are the various signal conditioning circuits explain any four of these. 10
(b) What is PLC ? Draw its block diagram and explain in detail the different modules. 10

4. (a) Describe different types of capacitive transducers. 10
(b) Draw and explain data acquisition system. 10

5. (a) Compare the following temperature transducers with respect to their characteristics, range of measurement and applications – RTD, thermistor, thermocouple. 10
(b) What are the different types of continuous controller ? Explain each of them stating their advantages and disadvantages. 10

6. (a) What are different methods of flow measurement ? Describe any two methods in detail. 10
(b) Write short note on fuzzy control. 10

7. (a) Derive gauge factor. How strain gauge is used for measurement of pressure ? 10
(b) What are the following terms :- 10
 - (i) process lag
 - (ii) error .
 - (iii) control lag
 - (iv) dead time
 - (v) set point.