Q.26 Classify the different types of speed measurement and explain any one method.

Q.27 Explain the construction of electrical pressure pick up.

Q.28 Explain the working of ultrasonic flow meter.

Q.29 State the basic principle of electromagnetic flow meter and write its two limitations.

Q.30 Define thermistor and its construction.

Q.31 Explain the working principle of Resistance thermometer.

Q.32 Describe the working principle of thermocouple.

Q.33 Name different methods of level measurement and explain any one of them.

Q.34 Explain any one method of pH measurement.

Q.35 Write the three application each of thermocouple and pyrometer.

SECTION-D

Note : Long Answer type question. Attempt any two questions. (2x10=20)

Q.36 Explain the construction, operating principle of LVDT. Write also the advantage, disadvantage and applications of LVDT.

Q.37 Write a short note on

(i) Temperature recorder

(ii) dynamometer.

Q.38 Explain the construction, working principle and uses of Bourdon pressure gauges.

b)

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Roll No.....

Branch : Electrical Engg.
Subject : Instrumentation

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note : Multiple choice questions. All questions are compulsory. (10x1=10)

Q.1 A measuring system consists of

a) Sensors

b) Variable conversion elements

c) Signal processing elements

d) All of these

Q.2 Which transducer is known as "self-generating transducer"?

a) Active transducer b) Passive transducer

c) Secondary transducer d) Analog transducer

Q.3 Output of a bimetallic element will be_____

a) Strain b) Pressure

c) Displacement d) Voltage

Q.4 Which of the following conversion is correct for load cell?

a) Force to strain

b) Force to displacement

c) Force to voltage

d) Both force to strain and force to displacement

Q.5 Which of the following conversion take place in bourdon tubes?

a) Pressure to displacement

b) Pressure to voltage

c) Pressure to strain

d) Pressure to force

Q.6 The Displacement measuring instruments is/are___

a) Potentiometer b) LVDT

c) RVDT d) All of these

Q.7 Light emitting diode is used as

a) Intelligence b) Display

c) Transducer d) Sensor

Q.8 In wire wound strain gauge, the change is resistance on application of strain is mainly due to

a) Change in length of wire

b) change in length & diameter of wire

c) Change in diameter of wire

d) Change in resistivity

Q.9 A hygrometer is

a) Convenient for measuring specific gravity

b) An instrument that measure gas weight.

c) An instrument that measures moisture content

d) None of the above

Q.10 Which of the following transducer is used for transmitting and receiving the acoustic energy in a ultrasonic flow meter?

a) LVDT b) RTD

c) Piezoelectric crystal d) Thermistor

SECTION-B

Note : Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Define Direct Measurement.

Q.12 Diaphragm element can also be used for force measurement. (True/False)

Q.13 Write the one difference between transducer and inverse transducer.

Q.14 Name the all types of stain gauge.

Q.15 Write one advantage and one disadvantage of LVDT.

Q.16 Which device is used for measurement of periodic or rotary motion.

Q.17 Write the two uses of pressure cell.

Q.18 Mention the basic principle of pyrometer.

Q.19 Name the device for vibration measurement.

Q.20 Expand RTD.

SECTION-C

Note : Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Draw the block diagram of generalized measurement system and explain the function of each elements.

Q.22 Classify the resistive transducer with examples.

Q.23 Explain the foil type strain gauge.

Q.24 Explain the working of piezoelectric transducer.

Q.25 Describe the working of Strain Gauge load cell.