

VERY SIMPLE SET QUESTION - (1)

Sub: - Industrial Measurement
& Instrumentation - I
Full marks - 80

Time - 3 hours

Branch - AERT (4th Sem.)

Answer any five question including question
No. 1 & 2.

① Answer all the Question :-

2X10

- a) What is the conversion formula of Fahrenheit to Celsius & Kelvin to Celsius & convert 195°F to Celsius?
- b) What are the basic fixed points of temperature measurement describe it briefly?
- c) What is the temperature range of liquid-in-glass thermometer, which liquid is used for low temperature measurement?
- d) Which types of metal are used in RTD & write its advantage?
- e) What is microphone?
- f) What is telemetry system?
- g) What are the obstruction less type of flow meter?
- h) What is Reynold's Number?
- i) Define force & shaft power?
- j) What is gauge pressure & vacuum pressure?

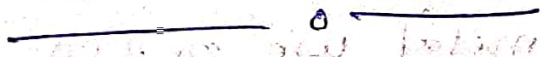
② Answer any five Question

5X6

- a) Draw and explain 3-wire & 4-wire RTD?
- b) Explain well type & inclined type manometer type pressure measurement?
- c) Explain variable ~~area~~ head type flowmeter?
- d) Explain strain gauge type pressure transducer?
- e) Explain piezoelectric microphone with diagram?
- f) Explain voltage Telemetry System?

3. Explain ~~pressure~~ pressure to current converter & pressure to voltage converter? 10
4. Explain the working principle of hydraulic load cell & pneumatic load cell? 10
5. Explain the working principle of magnetic flow meter with diagram? 10
6. Explain the measurement of shaft power using prony brake & rope brake? 10
7. Explain & draw the working of displacer type level Indicator? 10

(2)



VERY SIMPLE SET QUESTION - 2

Subj: - Industrial Measurement and Instrumentation - I
Branch: AET (4th Sem.)

Time - 3 hours.
FM - 80.

Answer any five question including question No. 2
No. 2

1. Answer all the Questions:-

2 X 10

- a) Define what is thermoelectric effect?
- b) What is pressure & what are the high pressure unit & low pressure unit?
- c) What is J-type & K-type thermocouple in temperature measurement?
- d) What is piezoelectric effect?
- e) What do you mean by capsule & which material use in diaphragm?
- f) What are the advantages of venturi tube?
- g) What is laminar flow & turbulent flow?
- h) What is acoustic pressure level?
- i) What are the methods of use for force measurement?
- j) What are basic methods of level measurement instruments?

2. Answer any Five Questions

5 X 6

- a) Define pulse telemetry system?
- b) Explain Inductive microphone & dynamic microphone?
- c) Explain rotating vane meter type flow measuring instrument?
- d) Describe the working principle of C-type Bourdon tube?
- e) Describe capacitive type pressure transducer?
- f) Describe working principle of Pirani gauge?

Q.3 Explain & Draw the working principle of Ultrasonic type flowmeter? 10

Q.4 Define & state the working principle of Piezoelectric type pressure transducer with neat sketch? 10

Q.5 Explain working principle of McLeod gauge for pressure measurement? 10

Q.6 Explain & Define bellows & diaphragm with sketch? 10

Q.7 Explain equal & unequal arm balance methods of force measurement?

(2)