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4th Sem / Eltx., Med Eltx, Mecatronics, Power Eltx.
Subject:- Instrumentation/Instrument.
Process Control

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 The first stage of measurement system is (CO1)

a) Transducer b) Sensing element
c) Display device d) Signal Conditioning

Q.2 Which of the following is active transducer? (CO2)

a) Potentiometer b) Strain gauge
c) Thermocouple d) Bourdon Tube

Q.3 Unit of pressure is_____ (CO5)

a) Newton b) Newton-m
c) Newton/m d) Newton/m^2

Q.4 Thermocouple works on the principle of_____ (CO7)

a) Ohm's law b) Doppler effect
c) Seeback effect d) Faraday's law

Q.5 Humidity is measure by_____ (CO8)

a) Potentiometer b) Bourdon tube
c) Hygrometer d) Thermometer

Q.6 Electromagnetic flow meter works on the principle of_____ (CO6)

a) Faraday's law b) Doppler effect
c) Hysteresis effect d) Ohm's law

Q.7 pH of pure water is_____ (CO8)

a) Zero b) 7 c)14

Q.8 Thermistor is_____Transducer. (CO7)

a) Active b) Passive

Q.9 Flow is expressed in_____ (CO6)

a) Liters-minute b) Liters-minute^2
c) Liters/minute d) Liters/minute^2

Q.10 Which of the following works on black body concept? (CO7)

a) Pyrometer
b) Bimetallic thermometer
c) Resistance thermometer

SECTION-B

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

Q.11 Define measurement (CO1)

Q.12 Write full form of LVDT. (CO3)

Q.13 What are units of strain (CO3)

Q.14 Define pressure (CO5)

Q.15 What is load cell. (CO4)

Q.16 What is use of Bellows? (CO5)

Q.17 Define Torques. (CO4)

Q.18 Name the material used for making thermocouple. (CO7)

Q.19 Name any two display devices. (CO1)

Q.20 What are units of humidity ? (CO8)

SECTION-C

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

Q.21 What is importance of measurement ? (CO1)

Q.22 Write in detail the working principle of resistive transducers. (CO2)

Q.23 What is need of signal conditioning. (CO1)

Q.24 Explain piezoelectric effect. (CO2)

Q.25 Define gauge factor, what is its importance? (CO3)

Q.26 Show how torque is measured? (CO4)

Q.27 Write any one method of measurement of speed. (CO4)

Q.28 Write in detail the working of pressure cells. (CO5)

Q.29 Explain in brief the ultrasonic flow meter. (CO6)

Q.30 With the help of diagram, explain resistance thermometer. (CO7)

Q.31 Show how Pyrometers work? (CO7)

Q.32 Explain any one method of measurement of level. (CO8)

Q.33 Show how humidity is measured. (CO8)

Q.34 Explain in brief different types of thermistors. (CO7)

Q.35 Differentiate between Active & Passive transducers. (CO2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain in detail the construction of bourdon tubes. (CO5)

Q.37 With the help of neat diagram, explain Thermocouple (CO7)

Q.38 Draw and explain the principle and working of LVDT. (CO3)

Note: Course Outcome (CO) mentioned in the question paper is for official purpose only.