No. of Printed Pages : 4
Roll No. .....

221532

3rd Sem / Instrumentation & Control

Subject : Sensors and Transducers

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 RTD is used to measure_____.

a) Pressure b) Temperature

c) level d) Flow

Q.2 Microphone is used to measure_____ signal.

a) Electric b) Magnetic

c) Acoustic d) Light

Q.3 Temperature coefficient of RTD is

a) Negative b) Positive

c) Both a & b d) None of these

Q.4 Thermocouple is based on_____ effect.

a) Tindal effect b) Thomson effect

c) Peltier effect d) Seeback effect

Q.5 Seismic pickup does not measure_____.

a) Velocity b) Displacement

c) Acceleration d) Temperature

Q.6 Shaft encoder is a _____ type of transducer.

a) Electrical b) Analog

c) Digital d) None of these

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 LDR is made up of_____ material.

Q.8 Define gauge factor.

Q.9 Write two example of passive transducer.

Q.10 Shaft encoder is an example of_____

Q.11 Define sensor

Q.12 Define Active transducer

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain construction and working principle of capacitor microphone.

Q.14 Write down the five application of seismic pick-up.

Q.15 Explain working and construction of Electromagnetic Pickup.

Q.16 Write down the criteria for the selection of transducer.

Q.17 Explain working and construction of thermistor.

Q.18 Write a short note on LDR.

Q.19 Write a short note on characteristics of transducer.

Q.20 Explain construction and working of capacitor microphone.

Q.21 Write a short note on strain gauge.

Q.22 Write a short note on Air Quality Sensor. (MQ135)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain in detail construction, working, principle, advantages, disadvantages and application of Humidity Sensor (DHT11).

Q.24 Explain construction and working principle of RVDT in detail. Also write its applications.

Q.25 Explain construction and working principle of Capacitive pickup. Write down the advantage and disadvantages of differential Capacitor pick up.