SECTION-D

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

Q.23 Explain construction and working of U-tube manometer with neat and clean diagram. Also discuss its advantages and disadvantages. (CO2)

Q.24 Discuss the principle, construction and working of pressure gauge method of level measurement with the help of neat diagram. (CO3)

Q.25 Write shorts notes on any two of following (CO1)

a) measurement and its aim

b) `Static error and its types

c) Dynamic characteristics of an instrument.

No. of Printed Pages : 4 220532
Roll No. .....

3rd Sem / Chemical

Subject : Process Instrumentation and Control

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 Which of the following is used for vacuum measurement? (CO2)

a) Capacitive pressure transducer

b) Capsule gauge

c) U-tube manometer

d) C-type bourdon tube

Q.2 Which of the following is the Dynamic characteristics of an instrument? (CO1)

a) Accuracy b) Repeatability

c) Drift d) Fidelity

Q.3 _____ is a expansion type thermometer (CO2)

a) Bimetallic thermometer

b) Resistance thermometer

c) Thermocouple

d) Optical pyrometer

Q.4 Orsat analyzer is used for measuring the concentration of (CO3)

a) Oxygen b) Carbon dioxide

c) Carbon Monoxide d) All of these

Q.5 Which of the following is an unbound input to a process system? (CO4)

a) Step Input b) Pules Input

c) Ramp Input d) Sinusoidal Input

Q.6 PH meter has_____ electrodes. (CO3)

a) Zero b) Two

c) Three d) One

SECTION-B

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

Q.7 Define Precision. (CO1)

Q.8 Define speed of response. (CO1)

Q.9 Mention any two level measurement instrument. (CO3)

Q.10 Name two pyrometers used for temperature measurement. (CO2)

Q.11 Define step input. (CO4)

Q.12 Name any one Elastic pressure transducer. (CO2)

SECTION-C

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

Q.13 Discuss about primary and secondary elements of an instrument. (CO1)

Q.14 Describe the construction and working of bimetallic thermometer. (CO2)

Q.15 Discuss about strip chart recorder in brief. (CO3)

Q.16 Describe oxygen analyzer (CO3)

Q.17 Define the different component of process control system. (CO4)

Q.18 Describe the feed forward control system with diagram. (CO4)

Q.19 Convert 273 kelvin into (CO2)

a) Degree Celsius and

b) Degree Fahrenheit

Q.20 Explain Gauge pressure, Absolute pressure and vacuum pressure in brief. (CO2)

Q.21 Describe the principle and working of mcleod gauge. (CO2)

Q.22 Explain ramp input and sinusoidal input in brief. (CO4)