Q.27 Explain u-tube manometer used for measuring pressure.
Q.28 Define infrared analyzer.
Q.29 Define pH meter and its applications.
Q.30 Define visco meter.
Q.31 Define circular chart recorder.
Q.32 Explain feed back control system with neat diagram .
Q.33 Write different types of values and define valve characteristics.
Q.34 Define different components of a process control system.
Q.35 Define orsat analysers.

SECTION-D

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

Q.36 Explain with neat diagram the working and constructional, details of radiation pyrometer.
Q.37 What is a thermocouple? Explain with neat diagram the constructional details and working principle of thermocouple pyrometer.
Q.38 Describe cascade control system with its cascade applications and advantages.

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6th Sem / Branch : Chem. P & P Chem. Engg. (Spl. Paint Tech.) Chem Engg/(Spl Polymer Tech)
Sub.: Process Instrumentation & Control

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Air purge system is used for the measurement of the level of
a) Corrosive liquid b) Abrasive liquid
c) Both (a) & (b) d) None

Q.2 In radiation level detector, as liquid level rises, the amount of radiation received is
a) Increased b) Decreased
c) Unchanged d) None

Q.3 On Fahrenheit scale the interval between lower and upper fixed point is divided into
a) 180 equal parts b) 100 equal parts
c) 80 equal parts d) 50 equal parts

Q.4 Which device is used for calibrating pressure gauges:
a) Manometer
b) Bellows
c) Bourdon tube
d) Dead weight pressure tester

Q.5 Pressure as defined as

a) Force/area b) Force X area

c) Area/Force d) None

Q.6 Hydrostatic pressure type level indicator is a

a) Indirect method of liquid level measurement

b) Not used for liquid level measurement

c) (a) & (b)

d) None

Q.7 Resistance temperature detector is

a) Electrical transducer

b) A mechanical transducer

c) A chemical transducer

d) A physical transducer

Q.8 Feed back control system

a) Input has control over output

b) In put has no control over output

c) Both A & B

d) None

Q.9 Ph is

a) $-\text{Log}_{10}(H^+)$ b) $+\log_{10}(H^+)$

c) $-\text{Log}(H^+)$ d) None

Q.10 Specific weight of a substance is

a) Weight per unit volume

b) Volume per unit weight

c) Weight per unit area

d) None

SECTION-B

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

Q.11 Define transducers.

Q.12 Define dead zone.

Q.13 Define Sensitivity.

Q.14 Define reproducibility.

Q.15 Define static characteristics.

Q.16 Define Resolution.

Q.17 Define disturbances.

Q.18 Define Range & Zero.

Q.19 Convert 100 mmHg M to N/m^2

Q.20 Name any two pressure measuring instruments.

SECTION-C

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

Q.21 Explain different static errors in brief.

Q.22 Define pressure gauge method used for measuring level.

Q.23 Define radiation level detector used for measuring level.

Q.24 Define open loop control system.

Q.25 Explain bimettalic thermometer.

Q.26 Explain in brief the working principle of micro manometer, used for pressure measurements.