Q.30 Explain in brief the working of strip chart recorders.

Q.31 Explain with neat diagram the working of any one viscosity measurement instrument.

Q.32 Discuss process control system with their representation by block diagram.

Q.33 Explain controlled variable and manipulated variable.

Q.34 Describe feed back automatic control system with applications.

Q.35 Describe PH meter.

SECTION-D

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

Q.36 Explain different types of valves & its characteristics Also explain valve actuator and valve positioning.

Q.37 Describe with neat sketch the working principle and constructional details of radiation pyrometer.

Q.38 What is a thermocouple ? Describe with neat diagram the constructional detail and working of thermocouple pyrometer.

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6th Sem / Chem, P & P, Chem Engg. (Spl. Paint Tech.)
Chem Engg. (Spl. Polymer Tech.)

Subject:- Process Instrumentation and Control

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 PH of basic solution is

a) less than 7 b) equal to 7
c) greater than 7 d) None

Q.2 Optical level detector uses

a) sound b) gamma ray
c) visible light d) All

Q.3 Hydrostatic pressure type level indicator is a

a) direct method b) Indirect method
c) Both d) None

Q.4 The smallest change in measured value of which instrument will respond is called

a) accuracy b) precision
c) Resolution d) Sensitivity

Q.5 One torr is defined as

a) one mm Hg b) one inch Hg
c) one atmosphere d) one cm Hg

Q.6 Radiation level detector is

a) Contract device b) Contact less device

c) Both a & b d) None

Q.7 Temperature scale has_____ fixed points

a) one b) two

c) three d) four

Q.8 L span is

a) low & high value

b) low value

c) difference between high & low value

d) high value

Q.9 PH is

a) $-\log e^{10}[H^+]$ b) $+\log e^{10}[H^+]$

c) $\log e[H^+]$ d) None

Q.10 Set point of a system is also called

a) Manipulated variable

b) Desired variable

c) Controlled variable

d) Disturbance

SECTION-B

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

Q.11 Define precision.

Q.12 Convert 200°F into °C.

Q.13 Define log.

Q.14 Define responsibility.

Q.15 Define sensitivity.

Q.16 Define Span.

Q.17 Convert 760 mm Hg into Torr.

Q.18 Define True value.

Q.19 Write laplace function of a control system.

Q.20 Define Set-point.

SECTION-C

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

Q.21 Explain in brief the working of a pressure gauge.

Q.22 Explain in brief the working of a capacitance level indicator.

Q.23 Explain in brief the working of thermistor.

Q.24 Explain with neat diagram the working of a inclined manometer.

Q.25 Explain in brief the working of a bimetallic thermometer.

Q.26 Write the advantages and disadvantages of using filled system thermometers.

Q.27 Explain in brief feed forward control system with applications.

Q.28 Write short notes on oxygen analyzers.

Q.29 Explain in brief the working of orsat analyzers.