

- Q.32 Describe or sat analyzers in brief.
 Q.33 Explain strip chart readers in brief.
 Q.34 Define range, span & zero.
 Q.35 Draw block diagram of feed forward control system.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Explain different types of valves and its characteristics.
 Q.37 Explain with neat sketch the working principle and constructional details of radiation pyrometers. Also write where it is used?
 Q.38 Classify various types of process control system explain feedback control system with block diagram. Also write its advantages and disadvantages.

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Roll No.

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

Chem Engg. (Spl. Polymer Tech.)

Sub. : Process Instrumentation and Control

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Optical level defector uses
 a) Sound b) gamma says
 c) Light d) None
- Q.2 In radiation level detector, when the liquid level in the tank rises, the amount of radiation received is
 a) Increased b) decreased
 c) Unchanged d) None of the above
- Q.3 On fahrenheits 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) 90 equal parts
- Q.4 PH of acidic solution is
 a) less than 7 b) More than 7
 c) equal to 7 d) None
- Q.5 Radiation level detector is a
 a) Contact device b) Contact less device
 c) Both A & B d) None

- Q.6 Working principle of thermo couple is based on
a) Thomson effect b) See back effect
c) Peltier effect d) None

Q.7 A black body is a
a) Good absorber b) Good emitter
c) Both A & B d) None

Q.8 Resistance temperature detector is
a) Electrical transducer
b) Mechanical transducer
c) Chemical transducer
d) Physical detector

Q.9 Ultrasonic level measurement work on the principle of generating
a) Sound b) Light
c) Both A & B d) None

Q.10 PH meter has _____ electrodes
a) one b) two
c) three d) four

SECTION-B

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

- Q.11 Define span.
 - Q.12 Convert 100°C into kelvin (k)
 - Q.13 Define resolution.
 - Q.14 Define PH.
 - Q.15 Define dead zone.

- Q.16 Define sensitivity.
 - Q.17 Define drift.
 - Q.18 Define resolution.
 - Q.19 Define set point.
 - Q.20 Name any one automatic control system.

SECTION-C

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

- Q.21 Write the different sources of errors.

Q.22 Explain in brief with block diagram the functional elements of an instrument.

Q.23 Describe with neat diagram the working radiation level detector.

Q.24 Explain in brief capacitance level indicator with neat diagram.

Q.25 Explain with neat diagram sight glass liquid level measurement.

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

Q.27 Explain in brief the working of bimetallic thermometers.

Q.28 Define thermometer. Explain thermo couple byrometer with neat sketch.

Q.29 Explain with neat diagram U-tube manometer.

Q.30 Explain open loop control system with next diagram.

Q.31 Explain in Ph meter.