

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 What are the different types of automatic process control system used in industry? Explain any one in brief with its applications and advantages.
- Q.4 Explain with neat sketch feedback control system.
- Q.5 Describe with neat sketch the working principle of optical pyrometer.
- Q.6 Explain with neat sketch capacitive solid level measurement.
- Q.7 Write short notes on any two of the followings :-
- (a) Thermocouple.
 - (b) Infrared analyzer.
 - (c) Sight glass for liquid measurement.

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No. of Printed Pages : 4

Roll No.

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**Chem.Engg. / Chem. Engg (P&P) Chem
(spl. paint polymer Engg.)**

Subject : Process Instrumentation & Control

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1
- a) Define drift.
 - b) What is measurement?
 - c) Define dead zone.
 - d) Define resolution.
 - e) Name any two electrical temperature instruments.
 - f) Define set -point.
 - g) What is PH?
 - h) Static Errors.
 - i) Define repeatability.

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- j) Define ramp.
- k) Define pulse.
- l) Transfer function of a control system.
- m) Convert 100^oc into ^of.
- n) Name any two expansion thermometers.
- o) Define controlled variables.
- p) Define Static characteristics.
- q) Define fidelity.
- r) Define calibration.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

- Q.2
- i) Define measurement and its aim.
 - ii) Write the different sources of errors.
 - iii) Explain with neat sketch liquid in glass thermometer.
 - iv) Explain in brief the different types of temperature scale.

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- v) Explain in brief pressure gauge method of liquid level measurement.
- vi) Explain valve actuator and valve positioning.
- vii) Write the sources of errors of filled-system thermometer.
- viii) Explain with neat sketch the working of a bimetallic thermometers.
- ix) Explain any one filled type thermometer.
- x) Define circular charts and strip chart recorder.
- xi) Explain oxygen analyzer.
- xii) Explain radioactive method for liquid level measurement.
- xiii) Explain with neat sketch resistance thermometer for temperature measurement.
- xiv) Explain in brief float method for liquid level measurement.
- xv) Explain elastic pressure transducers.

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