

VITHALBHAI PATEL & RAJRATNA P.T. PATEL SCIENCE COLLEGE

Vallabh Vidyanagar - 388120

B.Sc. (5th Sem) Internal Test Theory - 2017

4th October, 2017 (Wednesday)

11:00 AM - 12:30 PM

US05CINV02 (Instrumentation - Vocational)

Control Techniques - 1

Maximum Marks: 25



Que 1 Each question below gives a multiple choice of answers. Choose the most appropriate one. [03]

- 1 ____: The Elapsed Time Between the Instant a Deviation Occurs and the Corrective Action First Occurs.
 - a) Cycling
 - b) Control Lag
 - c) Dead Time
 - d) Control Parameter Range
- 2 An Important Characteristic of the ____ Control Mode is that It Produces a Permanent Residual Error in the Operating Point of the Controlled Variable when a Change in Load Occurs. This Error is Referred to as Offset.
 - a) Integral (*I*)
 - b) Proportional Integral (*PI*)
 - c) Derivative (*D*)
 - d) Proportional (*P*)
- 3 The Pressure Levels Used For Instrument Air System (*IAS*) Vary From About ____.
 - a) 40 psig to 120 psig
 - b) 4 psig to 20 psig
 - c) 4 psig to 12 psig
 - d) 40 psig to 1200 psig

Que 2 Short Questions. Attempt any TWO. Each of 2 Marks. [04]

- 1 Explain Briefly Direct Action and Reverse Action in Terms of Control System.
- 2 Enlist Characteristics of *PI* Control Mode.
- 3 What are the Important Factors For Designing of *IAS*?

Que 3 What Do You Mean by Discontinuous Control Mode? Explain Two - Position Control Mode. [06]

OR

Write a Detailed Note on Multiposition Control Mode.

Que 4 Discuss Proportional Control Mode in Detail. [06]

OR

Give an Account of Integral Control Mode.

Que 5 Explain Reciprocating Type Compressor Used in *IAS* in Detail. [06]

OR

Write a Note on *IAS* Dryer.