

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Define solenoid. Explain the principle of operation and working of solenoid valve.

Q.24 Explain PID control mode with their merits and demerits.

Q.25 Define control valve. Explain working principle and construction of Hydraulic valve.

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4th Sem./ Instrumentation & Control

Subject : Process Control

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Temperature switches are also called as

- a) Relay switch
- b) RTD
- c) Thermostat
- d) Limit Switch

Q.2 Flow switches normally open or closed when a predetermined flow is

- a) Closed
- b) Open
- c) Reached
- d) None of these

Q.3 The On-Off Controller is a

- a) Continuous controller
- b) Discontinuous controller
- c) Hybrid controller
- d) Both a & b

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Q.4 Flapper Nozzle is used in a _____

- a) Electronic system b) Hydraulic system
- c) Pneumatic system d) None of these

Q.5 In automatic control system

- a) Feedback is absent
- b) Feedback is present
- c) Feedback sometimes occur
- d) None of these

Q.6 Solenoid valve is an example of

- a) On-off control b) Derivative control
- c) Integral control d) none of these

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. $(6 \times 1 = 6)$

Q.7 Expand PI.

Q.8 Define control valve.

Q.9 Define Process.

Q.10 Define limit switch.

Q.11 Expand P/I converter.

Q.12 Write two applications of electric actuator.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. $(8 \times 4 = 32)$

Q.13 Draw symbol and explain working principle of temperature switch.

Q.14 Write a short note on globe valve.

Q.15 Explain working of pneumatic actuator with the help of diagram.

Q.16 How pressure switch is used in industry.

Q.17 Explain concept of I to P converter.

Q.18 Write a short note on cascade control system.

Q.19 Draw and explain characteristics of P + I controller.

Q.20 Write atleast five comparison between feedback and feed forward control system.

Q.21 Describe process lag and measurement lag.

Q.22 Explain P + D control mode with diagram.