

- Q.28 Write five applications of control valve.
- Q.29 How temperature switch is used in industry?
- Q.30 Write a short note on globe valve.
- Q.31 Explain the concept of flapper nozzle system.
- Q.32 Explain flow loop control system with the help of diagram.
- Q.33 Write principle of operation of solenoid valve.
- Q.34 Write five differences between hydraulic and pneumatic control system.
- Q.35 Explain briefly pneumatic actuator.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. $(2 \times 10 = 20)$

- Q.36 Explain the principle of operation and constructional details of diaphragm operated control valve.
- Q.37 Define Hydraulic actuator. Explain the working of hydraulic valve.
- Q.38 Explain the concept of interlocking and Sequencing circuit.

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Sub.: Process Control

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SECTION-A

Note: Multiple choice questions. All questions are compulsory $(10 \times 1 = 10)$

- Q.1 Solenoid is device that converts an electrical signal into _____ motion.
- a) Mechanical b) Derivative
 - c) Integral d) Proportional
- Q.2 Temperature switches are also called as
- a) Thermostat b) Relay switch
 - c) Thermistor d) RTD
- Q.3 Which fluid is used in hydraulic power systems?
- a) Water
 - b) Oil
 - c) Non-compressible fluid
 - d) All are correct
- Q.4 The deviation of controlled variable from the set point is called
- a) Dead Time b) Error
 - c) Process Lag d) Control Lag

- Q.5 An Air-conditioner is an example of
a) Open loop system b) Closed loop system
c) Both (a) & (b) d) None of these
- Q.6 Which valve is most commonly used in house hold applications?
a) Globe valve
b) Diaphragm operated valve
c) Solenoid Valve
d) None of these
- Q.7 IN Switches, NC stands for
a) Normally closed b) Never closed
c) Not clear d) None of these
- Q.8 Set of operations performed in a sequential manner to get desired output is known as
a) Valve b) Transmitter
c) Actuator d) Process
- Q.9 Flapper nozzle is used in a/an _____.
a) Hydraulic b) Electronic
c) Pneumatic d) None of these
- Q.10 Total windings in an autotransformer are
a) Two b) One
c) Three d) None of these

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Write two applications of actuator.
Q.12 Expand PID.
Q.13 Write two applications of Ball valve.
Q.14 Integral time is given by _____.
Q.15 Write two types of controller mode.
Q.16 Define transducer.
Q.17 Define limit switch.
Q.18 Define Loop.
Q.19 Expand P/I converter.
Q.20 Write two applications of electric actuator.

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Write a short note on UI/P converter.
Q.22 Write different process variable and their units.
Q.23 Write two advantages of proportional control mode.
Q.24 Describe measurement lag and transmission lag.
Q.25 Explain derivative control mode with diagram.
Q.26 Describe the concept of on-off control mode.
Q.27 Write a short note on auto transformer.