

- Q.29 Illustrate with sketch the sequential logic system.
- Q.30 List the applications of logic gates.
- Q.31 What is interfacing? Write its various examples.
- Q.32 Write a short note on Serial communication interface.
- Q.33 What are the Programmable logic control advantages and disadvantages?
- Q.34 Explain ladder logic used in PLC?
- Q.35 What are counters? Write down various types of counters?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 How are the control valve classified? Write the classification of the control valve.
- Q.37 Draw a block diagram of microcontroller and list out of terms used in it?
- Q.38 What is interfacing? Explain the difference between a parallel and serial interface.

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6th Sem / Mech Subject:- Mechatronics

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 The analog to digital conversion in a measurement system takes place inside _____
a) transducer b) signal processor
c) display d) led
- Q.2 A Mechatronics system contains feedback.
a) True b) False
- Q.3 What is stand alone data acquisition systems often called?
a) Data Blogger b) Data Logger
c) Data Vlogger d) Digital Blogger
- Q.4 Which among the following is an advantage of the Pneumatic system?
a) The requirement of a lubricator
b) Runs continuously
c) Use of silencers
d) Low viscosity

- Q.5 Which of the following is not the main selection criterion of a stepper motor?
- Resolution required
 - Drive mechanism component required
 - Torque required
 - Speed
- Q.6 Which gate is called as inequality detector?
- 2 Input AND Gate
 - 2 Input NAND Gate
 - 2 Input XOR Gate
 - 2 Input XNOR Gate
- Q.7 In compact systems, we can use _____
- microprocessor
 - computers
 - CPU
 - microcontrollers
- Q.8 Which among the following is a property of a microcontroller?
- High power devices
 - Lower power devices
 - High cost
 - Large size
- Q.9 Microprocessors do not have inbuilt ROM (Read only memory)
- True
 - False
- Q.10 A good application for a timed interrupt in a PLC program would be
- A communications function block
 - A PID function block
 - A math function block
 - A motor start / stop rung

SECTION-B

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

- Q.11 Mechatronics.
- Q.12 Transducers
- Q.13 Data presentation System
- Q.14 Hydraulic Systems
- Q.15 Digital Logic
- Q.16 Microprocessor
- Q.17 Interfacing
- Q.18 Magnetic Recording
- Q.19 Rotary Actuators
- Q.20 Solid State Switches

SECTION-C

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

- Q.21 What do you understand by static and dynamic characteristics of a measurement system.
- Q.22 Define Encoder. List its types.
- Q.23 Define sensors and transducers with examples.
- Q.24 Write in brief about three-way directional valve.
- Q.25 What are the common faults in the hydraulic system?
- Q.26 Explain electrical actuation system?
- Q.27 Write a short note on P-N Junction Diode.
- Q.28 What are the features of microprocessor?