Q.27 Discuss the types of transducers. (CO-2)

Q.28 What are the various applications of a logic gate? (CO-6)

Q.29 Discuss the working of relay in PLCs. (CO-9)

Q.30 Discuss the various applications of a microprocessor. (CO-7)

Q.31 How testing and calibration is done. (CO-5)

Q.32 Explain the working of electromechanical sensors. (CO-2)

Q.33 How temperature sensor works? Explain. (CO-2)

Q.34 Discuss the advantages and disadvantages of a sensor. (CO-2)

Q.35 Explain the working of Mechatronic system in detail. (CO-1)

Section-D

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

Q.36 Define control system. Explain open and closed loop control system with the help of diagram. (Co1)

Q.37 Explain the various components of an electrical actuation system with the help of diagram. (CO-5)

Q.38 Explain the working of programmable logic controller with the help of circuit diagram. (CO-9)

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Roll No.....

6th Sem / Mechanical Engg.
Subject : Mechatronics

Time : 3 Hrs. **M.M. : 100**

SECTION-A

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

Q.1 Active transducer requires any type of _____ for an operation. (CO-2)

a) Additional power source
b) NO additional power source
c) no conversion factor
d) None of the above

Q.2 What are transducers? (CO-2)

a) They convert power from one form to another
b) They convert work from one form to another
c) They convert work to power
d) They convert energy from one form to another

Q.3 What is the full form of LVDT with respect to displacement transducer? (CO-2)

a) Linear variable differential temperature
b) Linear variable differential transformer
c) Liquid visible differential transformer
d) Liquified visible differential transformer

Q.4 A servo motor is a typical example of _____(CO-5)

a) Electronics system
b) Mechanical system
c) Computer system
d) Mechatronics system

Q.5 The main mechanical components of a servo motor is (CO-5)

a) Rotor b) Stator
c) Both A & B d) None of the above

Q.6 A Mechatronics system contains (CO-1)

a) Feedback b) Rotor
c) No feedback d) All of the above

Q.7 What is the international System of length used to measure displacement? (CO-3)

a) Metre b) Kilo meter
c) Centimetre d) Yards

Q.8 Universal logic gates can be (CO-6)

a) NAND gate b) NOR gate
c) XOR gate d) Only A and B

Q.9 Proximity sensor is a _____ type of position sensor. (CO-2)

a) Contact b) Non-contact
c) Eddy current d) Resistive

Q.10 What is the SI unit of pressure? (CO-3)

a) Pascal b) Barye
c) ATM d) Newton

Section B

Note: Objective types Questions. All Questions are compulsory. (10x1=10)

Q.11 Explain what is a flip-flop? (CO-6)

Q.12 Write the use of truth table. (CO-6)

Q.13 Define universal logic gate. (CO-6)

Q.14 Discuss the working D.C. Motor. (CO-5)

Q.15 What are rotary actuators? (CO-5)

Q.16 What are data presentation elements? (CO-3)

Q.17 Write the application of sensor. (CO-2)

Q.18 How transducer works? (CO-2)

Q.19 Define OR gate. (CO-6)

Q.20 Define interfacing. (CO-9)

Section-C

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

Q.21 Explain the working of peripheral interface adapters. (CO-9)

Q.22 How a microcontroller works? Explain. (CO-7)

Q.23 Define the types of Logic Gates. (CO-6)

Q.24 Explain the working of stepper motor. (CO-5)

Q.25 Explain displacement, motion and position sensor. (CO-1)

Q.26 Discuss the factors to be considered while selecting sensors. (CO-2)