**SUBJECT-MECHATRONICS-II QUESTION BANK**

**CLASS-THIRD YEAR AT/WT**

**Q.1.MCQ**

1-Hall Effect sensors are used in

1Flow meter 2. Fuel level indicator 3. Both (A) and (B) 4. None of the above

2-Following is (are) the type(s) of Light sensor(s)

1. Photo sensor 2. Photo transistors 3. Photo conductors 4. All of the above

3-The sensors are classified on the basis of

1. Functions 2. Performance 3. Output 4. All of the above

 4-The sensors are classified on the basis of

1. Functions 2. Performance 3. Output 4. All of the above

 5-The following is not a static performance parameter to be looked into before selecting a parameter.

1. Range 2. Deflection 3. Stability 4. Error

6-The following main dynamic characteristic(s) is usually considered in Mechatronics application of sensors.

1. Response time 2. Rise time 3. Time constant 4. All of the above

 7-The ability to give same output reading when same input value is applied repeatedly is known as

1. Stability 2. Repeatability 3. Accuracy 4. Sensitivity

8-It is the ability of the sensor to indicate the same output over a period of time for a constant input.

1. Stability 2. Resolution 3. Error 4. Impedance

 9-It is the time required to come to an output value within the specified error level.

1. Response time 2. Rise time 3. Settling time 4 None of the above

10-Following is the coded output.

1. Modulation of amplitude 2. Modulation of frequency 3. Modulation of pulse width 4. All of the above

11- Which is the microprocessor comprises:

1.Register section 2.One or more ALU 3.Control unit 4.All of these

12- A set of register which contain are

 1.data 2.memory addresses 3.result 4.all of these

14. What is the function of electric actuator?

1. converts electrical energy into mechanical torque 2. converts mechanical torque into electrical energy 3. converts mechanical energy into mechanical torque

4. none of the above

15. In which stage the measurement system comes in contact with the measurand or the quantity to be measured?

1. Transducer Stage 2. Signal Processor Stage

3. Output Stage 4. None of the above

16. The 8051 microcontroller is of \_\_\_pin package as a \_\_\_\_\_\_ processor.

1.30, 1byte 2. 20, 1 byte

3. 40, 8 bit 4. 40, 8 byte

17. The SP is of \_\_\_ wide register. And this may be defined anywhere in the \_\_\_\_\_\_.

1. 8 byte, on-chip 128 byte RAM. 2. 8 bit, on chip 256 byte RAM.

 3. 16 bit, on-chip 128 byte ROM 4.8 bit, on chip 128 byte RAM.

18.In 8051 which interrupt has highest priority?

1.IE1 2.TF0 3IE0 4.TF1

**Q2 EXPLAIN IN DETAIL 10Marks**

1.Explain in detail basic elements of Mechatronics system.

2.Explain performance terminology of sensor.

3.Explain in detail 8051

4.Explain 8085 Architecture block diagram

5.Explain different form of stepper motor with neat diagram.

6.Explain static and dynamic characteristics of Transducer.

7.Explain in detail solid state switches.

8.Explain in detail Selection of SENSOR.

9.Explain stepper motor interfacing.

10.Explain 7 segment display interfacing.

**Q3.Explain in short 5 Marks**

1.What is Mechatronics

2.Explain open loop system.

3.Explain Closed loop system.

4.What is sensor.

5.Explain 8085 features.

6.Explain 8051 features

7.Write a difference between 8085 and 8051.

8.Explain selection of sensor.

9.Explain Electrical ACTUATION SYSTEM

10.Explain THYRISTOR

11.Explain Light sensor

**Q4. SHORT NOTE ON 5 Marks**

1. Response of systems
2. .Microprocessor-based controllers
3. Sensors and transducers
4. Fluid Pressure
5. Liquid Level
6. Temperature
7. LED
8. LCD Display
9. Address / Data Buffer
10. ALU