



Introduction to Internet of Things Assignment-Week 5

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 15

Total marks: 15 X 1= 15

QUESTION 1:

Which of the following is/are current challenges in IoT?

- a. Large scale of co-operation
- b. Global heterogeneity
- c. Both (a) and (b)
- d. Neither (a) nor (b)

Correct Answer: c. Both (a) and (b)

Detailed Solution: Large scale of co-operation and Global heterogeneity are current challenges in IoT.

See lecture 21 (Interoperability in Internet of Things) @ 03:41.

QUESTION 2:

State True or False.

Statement: "Interoperability is not a characteristic of a product or system."

a. True

b. False

Correct Answer: b. False





Detailed Solution: Interoperability is a characteristic of a product or system.

Refer Lecture 21@5:51

QUESTION 3:

Interoperability is required because

- a. There are different programming languages
- b. There are different communication protocols
- c. Both (a) and (b)
- d. Neither (a) nor (b)

Correct Answer: c. Both (a) and (b)

Detailed Solution: Interoperability is required because

- a) There are different programming languages
- b) There are different communication protocols

Refer Lecture 21@08:30

QUESTION 4:

State whether the following statement is true or false

Statement: "Use of different programming languages such as JavaScript, Python, JAVA, and others is an example of heterogeneity in IoT. This brings in the need for interoperability."

- a. False
- b. True





Correct Answer: b. True

Detailed Solution: Use of different programming languages such as JavaScript, Python, JAVA, and others is an example of heterogeneity in IoT. This brings in the need for interoperability

(Please refer Lecture 21@09:12)

QUESTION 5:

State True or False.

Statement: "The interoperability between devices and device users in terms of message formats is called Systematic Interoperability."

a. True

b. False

Correct Answer: b. False

Detailed Solution: The interoperability between devices and device users in terms of message formats is called Syntactic Interoperability.

Refer Lecture 21@17:06.

QUESTION 6:

What is the full form of UMB in IoT interoperability?

- a. Universal Meta Bridge
- b. Universal Main Bridge
- c. Universal Main Bracket

d. None of these

Correct Answer: d. None of these

Detailed Solution: UMB stands for Universal Middleware Bridge.





Refer Lecture 21@22:16.

QUESTION 7:

State true of false

Arduino is an open-source electronic programmable board.

a. True

b. False

Correct Answer: a. True

Detailed Solution: Arduino is an open-source electronic programmable board.

Refer Lecture 22@05:17

QUESTION 8:

State true or false

Additional electronic circuits are essential to load a program into the Arduino controller board.

a. True

b. False

Correct Answer: b. False

Detailed Solution: No additional electronic circuits are essential to load a program into the Arduino controller board.

Refer Lecture 22@05:17.

QUESTION 9:





Arduino UNO has	number of Digital I/O pins.
a. 8	
b. 13	
c. 14	
d. None of these	

Correct Answer: c. 14

Detailed Solution: Arduino UNO has 14 number of Digital I/O pins.

Refer Lecture 22@07:08.

QUESTION 10:

What does the following code do?

```
int ledPin = 13;
void setup() {
pinMode(ledPin, OUTPUT);
for (int i = 0; i < 3; i++) {
  digitalWrite(ledPin, HIGH);
  delay(1000);
  digitalWrite(ledPin, LOW);
  delay(500);
}</pre>
```





```
}
void loop() {

// Do nothing
}
```

- a) Blink 3 times with 1000ms ON and 500ms OFF
- b) Blink 3 times with 500ms ON and 500ms OFF
- c) Blink 3 times with 1000ms ON and 1000ms OFF
- d) Stay ON continuously

Correct Answer: a) Blink 3 times with 1000ms ON and 500ms OFF

Detailed Solution:

The LED is turned ON for 1000ms using delay(1000).

The LED is turned OFF for 500ms using delay(500).

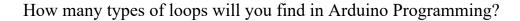
This process repeats 3 times in the for loop.

Thus, the LED blinks 3 times with 1000ms ON and 500ms OFF.





QUESTION 11:



- a. 1
- b. 2
- c. 3
- d. 4

Correct Answer: c. 3

Detailed Solution: Like C programming Arduino sketches also have 3 types of loops, for, while and do-while loops.

QUESTION 12:

Choose the right option for if/conditional operator.

- a. Val = (condition)?(Statement 1):(Statement 2)
- b. Val = (condition)?(Statement 2):(Statement 1)
- c. Val = (condition):(Statement 1)?(Statement 2)
- d. Val = (condition):(Statement 2)?(Statement 1)

Correct Answer: a. Val = (condition)?(Statement 1):(Statement 2)

Detailed Solution: Conditional operator may also be written as Val = (condition)?(Statement 1):(Statement 2). (Please refer Lecture 23@2:01)





QUESTION 13:

What is the purpose of calling dht.begin(); in the setup() function?

- A) To initialize the Serial Monitor
- B) To start communication with the DHT sensor
- C) To set the temperature and humidity values to zero
- D) To define the data pin for the sensor

Correct Answer: B) To start communication with the DHT sensor

Detailed Solution: Calling dht.begin(); in the setup() function starts communication with the DHT sensor.

Refer Lecture 24@ 17:25.

QUESTION 14:

What function is used to read the humidity value from the DHT sensor?

- A) dht.getHumidity();
- B) dht.readTemp();
- C) dht.readHumidity();
- D) dht.getTemperature();

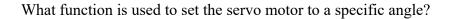
Correct Answer: c. dht.readHumidity();

Detailed Solution: dht.readHumidity(); function is used to read the humidity value from the DHT sensor Lecture 24@17:25.





QUESTION 15:



- A) ServoDemo.move()
- B) ServoDemo.rotate()
- C) ServoDemo.write()
- D) ServoDemo.setAngle()

Correct Answer: c. ServoDemo.write()

Detailed Solution: ServoDemo.write() function is used to set the servo motor to a specific angle.

Refer Lecture 25@18:47.

**********END*******