



Introduction to

Internet of Things

Assignment-Week 3

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 15

Total marks: 15 X 1= 15

QUESTION 1:

State whether the following statement is true or false.

Statement: Wired HART lacks a network layer.

- a. True
- b. False

Correct Answer: a. True

Detailed Solution:Wired HART lacks a network layer.

See lecture 11 (Connectivity Technologies-III) @ 05:22

QUESTION 2:

The HART physical layer is derived from _____ protocol and operates only in _____ GHz ISM band.

- a. IEEE 802.15.4, 2.4
- b. IEEE 802.15.4, 4.8
- c. IEEE 802.16.5, 4.8
- d. None of these

Correct Answer: a. IEEE 802.15.4, 2.4

Detailed Solution:The HART physical layer is derived from IEEE 802.15.4 protocol and operates only in 2.4 GHz ISM band.

See lecture 11 (Connectivity Technologies-III) @ 05:43



QUESTION 3:

State whether the following statement is True or False

Statement: Super-frames in HART consist of grouped 20ms wide timeslots.

- a. True
- b. False**

Correct Answer: b. False

Detailed Solution: Super-frames in HART consist of grouped 10ms wide timeslots.

See lecture 11 (Connectivity Technologies-III) @ 07:05

QUESTION 4:

_____ identifies channels consistently affected by interference and removes them from use.

- a. Channel hopping
- b. Channel aggregating
- c. Channel blacklisting**
- d. Frequency aggregating

Correct Answer: c. Channel Blacklisting

Detailed Solution: Channel Blacklisting identifies channels consistently affected by interference and removes them from use.

See lecture 11 (Connectivity Technologies-III) @ 07:30

QUESTION 5:

The _____ supervises each node in the network and guides them on when and where to send packets.

- a. Application manager
- b. Network manager**
- c. Trust manager
- d. None of these

Correct Answer: b. Network manager

Detailed Solution: The Network manager supervises each node in the network and guides them on when and where to send packets..

See lecture 11 (Connectivity Technologies-III) @ 12:14



QUESTION 6:

NFC is designed for use by devices within _____ to each other?

- a. Close proximity
- b. No near contact
- c. Both (a) and (b)
- d. None of these

Correct Answer: a. Close proximity

Detailed Solution: NFC is designed for use by devices within close proximity to each other.

See lecture 11 (Connectivity Technologies-III) @ 17:43

QUESTION 7:

_____ contain information which is readable by other devices, however it cannot read information itself.

- a. Active NFC devices
- b. Dumb NFC devices
- c. Passive NFC devices
- d. None of these

Correct Answer: c. Passive NFC devices

Detailed Solution: Passive NFC devices contain information which is readable by other devices, however it cannot read information itself.

See lecture 11 (Connectivity Technologies-III) @ 18:33

QUESTION 8:

NFC devices work on the principle of _____?

- a. Magnetic introduction
- b. Magnetic induction
- c. Both (a) and (b)
- d. None of these

Correct Answer: b. Magnetic induction

Detailed Solution: NFC devices work on the principle of magnetic induction.

See lecture 11 (Connectivity Technologies-III) @ 20:00



QUESTION 9:

Which of these is NOT a mode of operation NFC?

- a. Server-to-Server
- b. Peer-to-Peer
- c. Read/Write
- d. Card emulation

Correct Answer: a. Server-to-server

Detailed Solution: There are primarily three modes of operation in NFC as –

- a. Peer-to-peer
- b. Read/Write
- c. Card emulation

See lecture 11 (Connectivity Technologies-III) @ 23:00

QUESTION 10:

State whether the following statement is true or false

Statement: Paging in Bluetooth is the process of forming a connection between two Bluetooth devices.

- a. True
- b. False

Correct Answer: a. True

Detailed Solution: Paging in Bluetooth is the process of forming a connection between two Bluetooth devices.

See lecture 12 (Connectivity Technologies-IV) @ 05:32



QUESTION 11:

There are _____ modes of operation in Bluetooth.

- a. 3
- b. 4**
- c. 5
- d. None of these

Correct Answer: b. 4

Detailed Solution: There are 4 modes of operation in Bluetooth.

See lecture 12 (Connectivity Technologies-IV) @ 06:48

QUESTION 12:

Zwave uses _____ for signaling and control?

- a. Light
- b. RF**
- c. Sound
- d. None of these

Correct Answer: b. RF

Detailed Solution: Zwave uses RF for signaling and control.

See lecture 13 (Connectivity Technologies-V) @ 2:40

QUESTION 13:

Which of the following is/are not a constraint on sensor nodes?

- a. Must consume high power
- b. Not be adaptive to the environment
- c. Both (a) and (b)**
- d. None of these

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

Detailed Solution: Sensor nodes -

- a. Must consume extremely low power
- b. Be adaptive to the environment

See lecture 14 (Sensor Networks-I) @ 14:35



QUESTION 14:

_____ are simply those that are unable to perform an operation; this could be because of power failure and environmental events.

- a. Normal nodes
- b. Failed nodes**
- c. Badly failed nodes
- d. None of these

Correct Answer: b. Failed nodes

Detailed Solution: Failed nodes are simply those that are unable to perform an operation; this could be because of power failure and environmental events.

See lecture 15 (Sensor Networks-II) @ 03:52

QUESTION 15:

Dumb behavior of sensor nodes is _____ in nature (as it is dependent on the effects of the environmental conditions).

- a. Temporal**
- b. Spatial
- c. Both (a) and (b)
- d. None of these

Correct Answer: a. Temporal

Detailed Solution: Dumb behavior of sensor nodes is Temporal in nature (as it is dependent on the effects of the environmental conditions).

See lecture 15 (Sensor Networks-II) @05:40

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