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 True or False.

Statement: "WirelessHART is the latest release of Highway Addressable Remote Transducer protocol."

a. True
b. False

Correct Answer: a. True

Detailed Solution: WirelessHART is the latest release of Highway Addressable Remote Transducer protocol.

See lecture 11 (Connectivity Technologies-III) @ 01:42

QUESTION 2:

State True or False.

Statement: "Wired HART has a network layer."

a. True
b. False

Correct Answer: b. False

Detailed Solution: Wired HART does not have a network layer.

See lecture 11 (Connectivity Technologies-III) @ 04:25

QUESTION 3:

State true or false:

"WirelessHART physical layer is derived from 802.15.2 protocol"

   a. False
   b. True

Correct Answer: a. False

Detailed Solution: WirelessHART physical layer is derived from 802.15.4 protocol.

See lecture 11 (Connectivity Technologies-III) @ 06:00

QUESTION 4:

WirelessHART operates only in _____ GHz ISM band.

   a. 3.7
   b. 4.8
   c. 4.8
   d. 2.4

Correct Answer: d. 2.4

Detailed Solution: HART operates only in the 2.4 GHz ISM band.

See lecture 11 (Connectivity Technologies-III) @ 06:00

QUESTION 5:

HART standard was developed from _____ smart field devices.

   a. amplified
   b. diminished
   c. isolated
   d. networked

Correct Answer: d. networked

Detailed Solution: HART standard was developed for networked smart field devices.

See lecture 11 (Connectivity Technologies-III) @ 02:36

QUESTION 6:

Main difference between wired and unwired versions is in the physical, data link, and

_____ layers.

    a. Data link
    b. Network
    c. Transport
    d. None of these

Correct Answer: b. Network

Detailed Solution: Main difference between wired and unwired versions is in the physical, data link, and network layers.

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

QUESTION 7:

State true or false

"Collision free and deterministic communication is achieved in HART's data link layer."

    a. True
    b. False

Correct Answer: a. True

Detailed Solution: Collision free and deterministic communication is achieved in HART's data link layer.

See lecture 11 (Connectivity Technologies-III) @ 06:37

QUESTION 8:

Channel hopping is incorporated in which layer of HART?

    a. Data link layer
    b. Physical layer
    c. Application layer
    d. Transport layer

Correct Answer: a. Data link layer

Detailed Solution: Channel hopping is incorporated in the data link layer of HART.

See lecture 11 (Connectivity Technologies-III) @ 08:21

QUESTION 9:

State True or False.

"The HART application layer is responsible for extracting commands from a message, executing it and generating responses."

a. True
b. False

Correct Answer: a. True

Detailed Solution: The HART application layer is responsible for extracting commands from a message, executing it and generating responses.

See lecture 11 (Connectivity Technologies-III) @ 10:26

QUESTION 10:

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

a. Anywhere on the globe
b. A small building
c. Both (a) and (b)
d. None of these

Correct Answer: d. None of these

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

See lecture 11 (Connectivity Technologies-III) @ 17:47

QUESTION 11:

Passive NFC devices _____ information which is _____ by other devices.

a. contain, read
b. read, contain
c. contain, contain
d. None of these

Correct Answer: a. contain, read

Detailed Solution: Passive NFC devices contain information which is read by other devices.

See lecture 11 (Connectivity Technologies-III) @ 18:34

QUESTION 12:

State True or False.

"NFC devices work on the principle of magnetic induction."

a. True
b. False

Correct Answer: a. True

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

See lecture 11 (Connectivity Technologies-III) @ 21:47

QUESTION 13:

Bluetooth technology is based on _____.

a. HART
b. ZigBee
c. All of these
d. None of these

Correct Answer: d. None of these

Detailed Solution: Bluetooth technology is based on Ad-hoc piconets.

See lecture 12 (Connectivity Technologies-IV) @ 02:30

QUESTION 14:

State whether the following statement is true or false.

Statement: The Link Manager Protocol in Bluetooth manages the only establishment and authentication.

a. True
b. False

Correct Answer: b. False

Detailed Solution: The Link Manager Protocol in Bluetooth manages the establishment, authentication, link configuration.

See Page number – 157, Chapter - 7, Book - Introduction to IoT, Authors – Sudip Misra, Anandarup Mukherjee, and Arijit Roy, Publisher – Cambridge University Press, Edition – 1 (2021)

QUESTION 15:

Zigbee commonly uses _____ data rate.

a. 260 bps
b. 260 kbps
c. 260 Mbps
d. None of these

Correct Answer: d. None of these

Detailed Solution: Zigbee commonly uses a 250-kbps data rate.

See Page number – 131, Chapter - 7, Book - Introduction to IoT, Authors – Sudip Misra, Anandarup Mukherjee, and Arijit Roy, Publisher – Cambridge University Press, Edition – 1 (2021)

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