

Course outline

About NPTEL

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

● Lecture 11: Connectivity Technologies- Part-III

● Lecture 12: Connectivity Technologies- Part- IV

● Lecture 13: Connectivity Technologies- Part- V

● Lecture 14: Sensor Networks- Part-I

● Lecture 15: Sensor Networks- Part-II

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Week 03: Assignment 03

The due date for submitting this assignment has passed.

Due on 2025-08-13, 23:59 IST.

Assignment submitted on 2025-08-07, 17:02 IST

1 point

- 1) HART operates only in _____ GHz ISM band.

- a. 2.3
- b. 4.8
- c. Both (a) and (b)
- d. None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

- 2) State whether the following statement is true or false.

1 point

Statement: The HART physical layer is derived from IEEE 802.15.4 protocol and operates only in 2.5 GHz ISM band.

- a. False
- b. True

Yes, the answer is correct.

Score: 1

Accepted Answers:

a.

- 3) State whether the following statement is True or False

1 point

Statement: Each node is supervised by the application manager and it guides them on when and where to send packets.

- a. True
- b. False

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

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

1 point

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

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

- 5) State whether the following statement is true or false.

1 point

Statement: The Network Manager supervises each node in the network and guides them on when and where to send packets.

- a. True
- b. False

No, the answer is correct.

Score: 1

Accepted Answers:

a.

- 6) Which layer of HART incorporates channel hopping and channel blacklisting?

1 point

- a. Surface Layer
- b. Troposphere
- c. Data Link Layer
- d. None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

- 7) Wireless HART relies on _____ for its communication.

1 point

- a. Star networking
- b. Bus networking
- c. Both (a) and (b)
- d. None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

- 8) State whether the following statement is true or false.

1 point

NFC devices work on the principle of magnetic induction.

- a. True
- b. False

No, the answer is correct.

Score: 1

Accepted Answers:

b.

- 9) Bluetooth technology is based on Ad-hoc technology also known as _____.

1 point

- a. Ad-hoc meshnet
- b. Ad-hoc Piconets
- c. Ad-hoc starnet
- d. None of these

No, the answer is correct.

Score: 1

Accepted Answers:

b.

- 10) State whether the following statement is true or false

1 point

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

- a. True
- b. False

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

- 11) State whether the following statement is true or false.

1 point

Statement: Class 1 Bluetooth radios are used primarily in industrial use cases and have a range of 100 meters or 300 feet.

- a. True
- b. False

No, the answer is correct.

Score: 1

Accepted Answers:

a.

- 12) Zwave uses _____ topology.

1 point

- a. Ring
- b. Star
- c. Mesh
- d. None of these

No, the answer is correct.

Score: 1

Accepted Answers:

c.

- 13) Which of the following is an OS for sensor nodes?

1 point

- a. MicroOS
- b. LiteOS
- c. TinyOS
- d. None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

- 14) State whether the following statement is true or false.

1 point

Statement: Selfish nodes are typified by their unwillingness to cooperate, as the protocol requires whenever there is a personal cost involved.

- a. True
- b. False

No, the answer is correct.

Score: 1

Accepted Answers:

a.

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

1 point

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

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.