

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
- Lecture material of Week 3
- **Quiz: Week 03: Assignment 03**
- Week 3 Feedback Form

WEEK 4

WEEK 3

WEEK 6

WEEK 7

Week 8

Week 9

Week 1

Week 1:

Week 1:

Assignment Solutions

Books

Text Transcripts

Live Interactive Session

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.

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

☐ a.

☐ b.

☒ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
d.

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

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

 - False
 - True

☒ a.

☐ b.

Yes, the answer is correct.
Score: 1
Accepted Answers:
a.

3) State whether the following statement is True or False

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

 - True
 - False

☒ a.

☐ b.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b.

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

 - Channel hopping
 - Channel aggregating
 - Channel blacklisting
 - Frequency aggregating

☒ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.

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

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

 - True
 - False

☒ a.

☐ b.

Yes, the answer is correct.
Score: 1
Accepted Answers:
a.

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

 - Surface Layer
 - Troposphere
 - Data Link Layer
 - None of these

☒ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.

7) Wireless HART relies on _____ for its communication.

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

☒ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
d.

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

NFC devices work on the principle of magnetic induction.

 - True
 - False

☐ a.

☒ b.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

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

 - Ad-hoc meshnet
 - Ad-hoc Piconets
 - Ad-hoc starnet
 - None of these

☐ a.

☒ b.

☐ c.

☐ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

10) State whether the following statement is true or false

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

 - True
 - False

☒ a.

☐ b.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b.

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

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

 - True
 - False

☒ a.

☐ b.

Yes, the answer is correct.
Score: 1
Accepted Answers:
a.

12) Zigbee uses _____ topology.

 - Ring
 - Star
 - Mesh
 - None of these

☐ a.

☐ b.

☒ c.

☐ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
c.

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

 - MicroOS
 - LiteOS
 - TinyOS
 - None of these

☒ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.

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

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

 - True
 - False

☒ a.

☐ b.

Yes, 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).

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

☐ a.

☐ b.

☒ c.

☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.