

## Course outline

## About NPTEL

How does an NPTEL online course work?

## Week 0

## Week 1

- Lecture 1: Introduction to IoT- Part-I
- Lecture 2: Introduction to IoT- Part-II
- Lecture 3: Sensing
- Lecture 4: Actuation
- Lecture 5: Basics of IoT Networking- Part-I
- Week 1 : Lecture materials
- Quiz: Week 1 : Assignment 1
- Week 1 Feedback Form
- Assignment 1 Solution

## Week 2

## Week 3

## Week 1 : Assignment 1

The due date for submitting this assignment has passed.

Due on 2024-08-07, 23:59 IST.

Assignment submitted on 2024-08-05, 12:05 IST

1) IoT stands for \_\_\_\_\_. 1 point

- Internet of Tasks
- Internet of Tuples
- Internet of Things
- None of these

- a.
- b.
- c.
- d.

Yes, the answer is correct.

Score: 1

Accepted Answers:

c.

2) Which of the following technologies have unified and has resulted in the evolution of IoT? 1 point

- High-power embedded systems
- Super Computing

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## Week 2

- Lecture 6: Basics of IoT Networking-Part II
- Lecture 7: Basics of IoT Networking-Part-III
- Lecture 8: Basics of IoT Networking- Part-IV
- Lecture 9: Connectivity Technologies- Part-I
- Lecture 10: Connectivity Technologies- Part-II
- Lecture material of Week 2
- Quiz: Week 2 : Assignment 2
- Week 2 Feedback Form

## Week 2 : Assignment 2

The due date for submitting this assignment has passed.

Due on 2024-08-07, 23:59 IST.

Assignment submitted on 2024-08-05, 12:11 IST

1) Based on functionality, MQTT is a \_\_\_\_\_ protocol. 1 point

- Transport
- Data
- Semantic
- None of these

- a.
- b.
- c.
- d.

Yes, the answer is correct.

Score: 1

Accepted Answers:

b.

2) MQTT is a \_\_\_\_\_-based lightweight protocol for use in conjunction with TCP/IP protocol. 1 point

- Client-Server

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- 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 3 : Assignment 3

## Week 3 : Assignment 3

The due date for submitting this assignment has passed.

Due on 2024-08-14, 23:59 IST.

Assignment submitted on 2024-08-05, 12:13 IST

- 1) State True or False.
- Statement:** "Wireless HART is the latest release of Highway Addressable Remote Transducer protocol."
- a. True  
b. False

- ☒ a.  
☐ b.

Yes, the answer is correct.

Score: 1

Accepted Answers:

a.

- 2) State True or False.
- Statement:** "Wired HART does not have a network layer."
- a. True  
b. False

- ☐ a.  
☒ b.

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## Week 4

- Lecture 16: Sensor Networks- Part-III
- Lecture 17: Sensor Networks- Part- IV
- Lecture 18: Sensor Networks- Part- V
- Lecture 19: UAV Networks
- Lecture 20: Machine to Machine Communication
- Lecture material of Week 4
- Quiz: Week 4 : Assignment

## Week 4 : Assignment 4

The due date for submitting this assignment has passed.

Due on 2024-08-21, 23:59 IST.

Assignment submitted on 2024-08-18, 12:29 IST

- 1) State whether the following statement is true or false.
- Statement:** Coverage in WSN is defined as the entire area is covered satisfactorily.
- a. True  
b. False

- ☐ a.  
☒ b.

Yes, the answer is correct.

Score: 1

Accepted Answers:

b.

- 2) State True or False.
- Statement:** "In Wireless Sensor Network coverage, we study how to deploy or activate sensors to cover the monitoring area."
- a. True  
b. False

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Lecture 21 : Interoperability in Internet of Things

Lecture 22 : Introduction to Arduino- I

Lecture 23 : Introduction to Arduino- II

Lecture 24 : Integration of Sensors and Actuators with Arduino- I

Lecture 25 : Integration of Sensors and Actuators with Arduino- II

Lecture material of Week 5

Quiz: Week 5 : Assignment 5

Week 5 Feedback Form

Assignment 5 Solution

Week 6

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## Week 5 : Assignment 5

The due date for submitting this assignment has passed.

Due on 2024-08-28, 23:59 IST.

Assignment submitted on 2024-08-28, 18:55 IST

1) When different processing logic are applied to the same IoT networked devices or applications, it gives rise to? 1 point

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

- ☐ a.
- ☐ b.
- ☒ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers: b.

2) State True or False. 1 point

Statement: "Interoperability is a characteristic of a product or system."

- a. True
- b. False

- ☒ a.
- ☐ b.

Yes, the answer is correct.

Score: 1

Accepted Answers: a.

3) Interoperability is important in the context of IoT so that - 1 point

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## Week 6

- Lecture 26: Introduction to Python Programming- I
- Lecture 27: Introduction to Python Programming- II
- Lecture 28: Introduction to Raspberry Pi- I
- Lecture 29: Introduction to Raspberry Pi- II

## Week 6 : Assignment 6

The due date for submitting this assignment has passed.

Due on 2024-09-04, 23:59 IST.

Assignment submitted on 2024-08-31, 10:09 IST

- State True or False.  
**Statement:** "Python is popular for embedded application development as it is a very lightweight programming language."  
a. True  
b. False  
☒ a.  
☐ b.  
Yes, the answer is correct.  
Score: 1  
Accepted Answers:  
a. 1 point
- State True or False.  
**Statement:** "Python does not support strict rules for syntax."  
a. True  
b. False  
☐ a.  
☐ b. 1 point

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## Week 7

- Lecture 31 : Implementation of IoT with Raspberry Pi- II
- Lecture 32 : Implementation of IoT with Raspberry Pi- III
- Lecture 33 : Software Defined Networking- Part- I
- Lecture 34 : Software Defined

## Week 7 : Assignment 7

The due date for submitting this assignment has passed.

Due on 2024-09-11, 23:59 IST.

Assignment submitted on 2024-08-31, 10:12 IST

- Adafruit provides a library to work with DHT22 Sensor.  
a. True  
b. False  
☒ a.  
☐ b.  
Yes, the answer is correct.  
Score: 1  
Accepted Answers:  
a. 1 point
- Which python library is used for plotting the data in 2D.  
a. List  
b. Numpy  
c. Pandas  
d. Matplotlib  
☐ a.  
☐ b.  
☐ c. 1 point

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## Week 8

- ☐ Lecture 36 : Software Defined IoT Networking- II
- ☐ Lecture 37 : Cloud Computing-Fundamental
- ☐ Lecture 38 : Cloud

## Week 8 : Assignment 8

The due date for submitting this assignment has passed.

Due on 2024-09-18, 23:59 IST.

Assignment submitted on 2024-09-18, 21:39 IST

1) Which of the following abstracts the physical resources from the network services? 1 point

- a. Path management
- b. Routing protocols
- c. Flow-table paradigm
- d. Network Virtualization

- ☐ a.
- ☐ b.
- ☐ c.
- ☒ d.

Yes, the answer is correct.  
Score: 1

Accepted Answers:  
d.

2) In which of these, exact match rules are useful? 1 point

- a. Elephant Flow
- b. Micro-flow

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## Week 9

- ☐ Lecture 41 : Cloud Computing- Practical
- ☐ Lecture 42 : Sensor-Cloud- I

## Week 9 : Assignment 9

The due date for submitting this assignment has passed.

Due on 2024-09-25, 23:59 IST.

Assignment submitted on 2024-09-25, 22:14 IST

1) Which of the following can be used to install OpenStack? 1 point

- a. devstack
- b. stack
- c. Swift
- d. All of these

- ☒ a.
- ☐ b.
- ☐ c.
- ☐ d.

Yes, the answer is correct.  
Score: 1

Accepted Answers:  
a.

2) Which of the following is/are the advantages of cloud computing? 1 point

- a. Elasticity
- b. Pay-per-use

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## Week 10 : Assignment 10

The due date for submitting this assignment has passed.

Due on 2024-10-02, 23:59 IST.

Assignment submitted on 2024-09-25, 21:12 IST

1) Smart city is an \_\_\_\_\_ system.

1 point

- a. local
- b. rural
- c. home
- d. urban

- ☐ a.
- ☐ b.
- ☐ c.
- ☒ d.

Yes, the answer is correct.

Score: 1

Accepted Answers:

d.

2) Which of the following is an area of focus in smart parking lots?

1 point

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## Week 11

## Week 11 : Assignment 11

The due date for submitting this assignment has passed.

Due on 2024-10-09, 23:59 IST.

Assignment submitted on 2024-10-08, 20:02 IST

1) What are some of the other names of the smart grids?

1 point

- a. Energy internet
- b. Electricity with a hand
- c. Electrolyte
- d. All of these

- ☒ a.
- ☐ b.
- ☐ c.
- ☐ d.

Yes, the answer is correct.

Score: 1

Accepted Answers:

a.

2) Smart Grid follows which type of flow of energy?

1 point

- a. Bidirectional
- b. Unidirectional

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## Week 11

## Week 12 : Assignment 12

The due date for submitting this assignment has passed.

Due on 2024-10-16, 23:59 IST.

Assignment submitted on 2024-10-08, 20:04 IST

1) Qualitative analysis does not deal with the analysis of data that is categorical in nature.

1 point

- a. True
- b. False

- ☐ a.
- ☒ b.

Yes, the answer is correct.

Score: 1

Accepted Answers:

b.

2) Fill in the blank.

1 point

Examples of dispersion measures include \_\_\_\_\_ and \_\_\_\_\_.

- a. Discrete, categorical
- b. Continuous, quantitative

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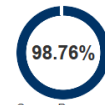
## Week 11

## Week 12

Date enrolled 2024-07-02

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Course Progress

## Unit wise Progress

## Assessment scores

Week 1 : Assignment 1:	93.0
Week 2 : Assignment 2:	100.0
Week 3 : Assignment 3:	100.0
Week 4 : Assignment 4:	93.0
Week 5 : Assignment 5:	100.0
Week 6 : Assignment 6:	100.0
Week 7 : Assignment 7:	100.0
Week 8 : Assignment 8:	100.0

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