

NPTEL

Course outline

About NPTEL

How does an NPTEL
online course work?

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Week 11

- Lecture 51: Smart Grid- I
- Lecture 52: Smart Grid- II
- Lecture 53: Industrial Internet
of Things- I
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Week 11: Assignment 11

The due date for submitting this assignment has passed.

Due on 2025-10-08, 23:59 IST.

Assignment submitted on 2025-10-06, 18:42 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) Which of the following is not done in traditional electrical grids? 1 point

- a. Manual energy monitoring

b. Unidirectional energy distribution

c. Unidirectional communication

d. Distributed power plants

- ☐ a.

☐ b.

☐ c.

☒ d.

Yes, the answer is correct.
Score: 1

Accepted Answers:
d.

3) Which of the following is a benefit associated with smart grids for customers? 1 point

- a. Reduced transmission of electricity

b. Higher electricity rates

c. Less security

d. Different pricing options

- ☐ a.

☐ b.

☐ c.

☒ d.

Yes, the answer is correct.
Score: 1

Accepted Answers:
d.

4) Fill in the blank. 1 point

_____ samples voltage and current with a fixed sample rate at the installed location.

- a. PEVs

b. DAUs

c. PMUs

d. None of these

- ☐ a.

☐ b.

☒ c.

☐ d.

Yes, the answer is correct.
Score: 1

Accepted Answers:
c.

5) Which of the following statements are true about MDMSs? 1 point

Statement I: Decide the price per unit energy to be paid by the customers

Statement II: Handled by the energy service providers

Statement III: Aggregate the energy consumption or energy request of certain geographical area

- a. Statements I and II

b. Statements I and III

c. Statements II and III

d. Statements I, II and III

- ☐ a.

☐ b.

☒ c.

☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

6) Which of the following aggregate the energy consumption or energy request of a certain geographical area? 1 point

- a. DAUs

b. Meter Data Management System

c. Buffer

d. None of these

- ☐ a.

☒ b.

☐ c.

☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

7) Which of the following statements are true about Dynamic System Attacks? 1 point

Statement I: Replay attacks compromises sensors and monitors their outputs.

Statement II: D-DIA can lead to a system collapse.

Statement III: Covert attack is a closed loop version of replay attacks.

- a. Statements I and II

b. Statements I and III

c. Statements II and III

d. Statement I, II and III

- ☐ a.

☐ b.

☐ c.

☒ d.

Yes, the answer is correct.
Score: 1

Accepted Answers:
d.

8) Fill in the blank. 1 point

_____ is performed by compromising the availability of the grid component.

- a. Gateway

b. Data injection attacks

c. AMH

d. Denial of service

- ☐ a.

☐ b.

☐ c.

☒ d.

Yes, the answer is correct.
Score: 1

Accepted Answers:
d.

9) Fill in the blank. 1 point

_____ is a primary challenge in IIoT.

- a. Worker health and safety

b. Optimised operations

c. Regulatory compliance

d. Integrate existing infrastructure into new IIoT infrastructure

- ☐ a.

☐ b.

☐ c.

☒ d.

Yes, the answer is correct.
Score: 1

Accepted Answers:
d.

10) Fill in the blank. _____ is based on a wrap and re-use approach. 1 point

- a. AoT

b. PoT

c. ToII

d. IIoT

- ☐ a.

☐ b.

☒ c.

☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

11) Mechanized production is a part of the 4th Industrial Revolution. 1 point

a. True

b. False

- ☐ a.

☒ b.

Yes, the answer is correct.
Score: 1

Accepted Answers:
b.

12) Which of the following happened in the 3rd Revolution? 1 point

- a. Mass production

b. IIoT

c. Mechanized production

d. None of these

- ☐ a.

☐ b.

☐ c.

☒ d.

Yes, the answer is correct.
Score: 1

Accepted Answers:
d.

13) Which of the following is not a vulnerability of Smart Grid? 1 point

- a. Integrity

b. Physical threats

c. Dynamic system attacks

d. None of these

- ☐ a.

☐ b.

☐ c.

☒ d.

Yes, the answer is correct.
Score: 1

Accepted Answers:
d.

14) Big data is characterized by 7 Vs. 1 point

a. True

b. False

- ☒ a.

☐ b.

Yes, the answer is correct.
Score: 1

Accepted Answers:
a.

15) What is the Flow of data? 1 point

- a. Acquisition>Generation>Storage>Analysis

b. Generation>Storage>Analysis>Acquisition

c. Generation>Acquisition>Storage>Analysis

d. None of these

- ☐ a.

☐ b.

☒ c.

☐ d.

Yes, the answer is correct.
Score: 1

Accepted Answers:
c.