



NPTEL Online Certification Courses
Indian Institute of Technology Kharagpur



Introduction to Internet of
Things Assignment-Week

11

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 15

Total marks: 15 X 1 = 15

QUESTION 1:

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

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

Correct Answer: a. Energy internet

Detailed Solution: Smart grids are also known as Electricity with a brain, Energy internet, and Electronet. (Please refer Lecture 51 @ 8:33)

QUESTION 2:

Which of the following is not done in traditional electrical grids?

- a. Manual energy monitoring
- b. Unidirectional energy distribution
- c. Unidirectional communication
- d. Distributed power plants

Correct Answer: d. Distributed power plants

Detailed Solution: In Traditional electrical grids, the energy generation is done in centralised power plants. (Please refer Lecture 51 @ 5:45)



QUESTION 3:

Which of the following is a benefit associated with smart grids for customers?

- a. Reduced transmission of electricity
- b. Higher electricity rates
- c. Less security
- d. Different pricing options

Correct Answer: d. Different pricing options

Detailed Solution: Smart Grids provide different pricing options for customers, lower electricity rates and Improved security. (Please refer Lecture 51 @ 16:33)

QUESTION 4:

Fill in the blank.

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

- a. PEVs
- b. DAUs
- c. PMUs
- d. None of these

Correct Answer: c. PMUs

Detailed Solution: PMUs or Phasor Measurement Unit samples voltage and current with a fixed sample rate at the installed location (Please refer Lecture 52 @ 2:44)



QUESTION 5:

Which of the following statements are true about MDMSs?

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

Correct Answer: a. Statements I and II

Detailed Solution: The Meter Data Management Systems (MDMS) decide the price per unit energy to be paid by the customers AND are handled by the energy service providers. (Please refer Lecture 52@16:02)

Detailed Solution: In islanding, a home can have power from distributed resources.(Please refer Lecture 51 @31:20)

QUESTION 6:

Which of the following aggregate the energy consumption or energy request of a certain geographical area?

- a. DAUs
- b. Meter Data Management System
- c. Buffer
- d. None of these

Correct Answer: a. DAUs

Detailed Solution: DAUs aggregate the energy consumption or energy request of a certain geographical area. (Please refer Lecture 52@15:17)



QUESTION 7:

Which of the following statements are true about Dynamic System Attacks?

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

Correct Answer: d. Statements I, II and III

Detailed Solution: Replay attacks compromises sensors and monitors their outputs. D-DIA can lead to a system collapse. Covert attack is a closed loop version of replay attacks. (Please refer Lecture 52@20:03)

QUESTION 8:

Fill in the blank.

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

- a. Gateway
- b. Data injection attacks
- c. AMH
- d. Denial of service

Correct Answer: d. Denial of service

Detailed Solution: Denial of service is performed by compromising the availability of the grid component. (Please refer Lecture 52@19:52)



QUESTION 9:

Fill in the blank.

_____ 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

Correct Answer: d. Integrate existing infrastructure into new IIoT infrastructure

Detailed Solution: Integrate existing infrastructure into new IIoT infrastructure is one of the primary challenges of IIoT. (Please refer Lecture 54@14:02)

QUESTION 10:

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

- a. AoT
- b. PoT
- c. ToII
- d. IIoT

Correct Answer: d. IIoT

Detailed Solution: IIoT is based on the wrap and re-use approach. (Please refer Lecture 53@9:51)



QUESTION 11:

Mechanized production is a part of the 4th Industrial Revolution.

- a. True
- b. False

Correct Answer: b. False

Detailed Solution: Mechanized production is a part of the 1st Industrial Revolution.
(Please refer Lecture 53@10:41)

QUESTION 12:

Which of the following happened in the 3rd Revolution?

- a. Mass production
- b. IIoT
- c. Mechanized production
- d. None of these

Correct Answer: d. None of these

Detailed Solution: Internet evolution and automation happened in the 3rd Revolution.(Please refer Lecture 53@10:06)

QUESTION 13:

Which of the following is not a vulnerability of Smart Grid?

- a. Integrity
- b. Physical threats
- c. Dynamic system attacks
- d. None of these

Correct Answer: d. None of these

Detailed Solution: Integrity, physical threats and dynamic system attacks are all the vulnerabilities of smart grids (Please refer Lecture 52@16:56)



QUESTION 14:

Big data is characterized by 7 Vs.

- a. True
- b. False

Correct Answer: a. True

Detailed Solution: Big data is characterized by 7 Vs. (Please refer Lecture 55@10:36)

QUESTION 15:

What is the Flow of data?

- a. Acquisition>Generation>Storage>Analysis
- b. Generation>Storage>Analysis>Acquisition
- c. Generation>Acquisition>Storage>Analysis
- d. None of these

Correct Answer: c. Generation>Acquisition>Storage>Analysis

Detailed Solution: The flow of the data is Generation, Acquisition, Storage and Analysis(Please refer Lecture 55@19:29)

*****END*****