

Unit 6 - Week 4

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Lecture 16 : Industry 4.0: Cybersecurity

Lecture 17 : Basics of Industrial IoT: Introduction

Lecture 18 : Basics of Industrial IoT: Industrial Internet Systems

Lecture 19 : Basics of IIoT: Industrial Sensing & Actuation

Lecture 20 : Basics of Industrial IoT: Industrial Processes – Part 1

Week 4 - Lecture Material

Quiz : Assignment 4

Week 4 Feedback Form

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Detailed Assignment Solution

Live Interactive Session

Assignment 4

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-02-26, 23:59 IST.

1) 1 point

What are the benefits of advance analytics in IIoT?
 a. Advanced analytics helps to enhance the working condition, increase machine life and optimize operational efficiency
 b. Data from array of deployed sensors and actuators can be exploited and extracted to decipher latent meanings using varieties of advanced analytic tools and algorithms
 c. Analytical results can be applied in various applications
 d. All of the above

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

2) 1 point

What are the issues in IIoT which is caused by lack of standardization?
 a. Device interoperability
 b. Semantic interoperability (data semantics)
 c. Security and privacy etc.
 d. All of them

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

3) 1 point

Which one of them is not an example of cybersecurity issue in IIoT?
 a. Data integrity in healthcare industries
 b. Data confidentiality of food industries
 c. Power grid security
 d. Workers' security in mining industries

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

4) 1 point

What is the landmark of the beginning of the first stage of the industrial revolution?
 a. Mass production and Commercialization of steam engines
 b. Invention of electricity
 c. Mass Production of combustion engines
 d. Development of new communication and transport systems

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

5) 1 point

Which of them are not the benefits of industrial internet in rail transportation?
 a. Reducing the maintenance cost
 b. Preventing engine breakdown
 c. The rail operator can monitor the trains and make optimal decisions and train scheduling
 d. Availing more trains and rails

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

6) 1 point

What are the catalysts in implementing industrial internet?
 a. Innovations in terms of equipment, advance analytics, system platform, business processes
 b. Increasing infrastructure
 c. Improving cybersecurity management
 d. All of the above

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

7) 1 point

Which of these are cyber-attacks?
 a. Denial-of-service attack.
 b. Password sniffing.
 c. Trojans and viruses attack.
 d. All of the above.

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

8) 1 point

Application firewall is a-
 a. Software countermeasure.
 b. Hardware countermeasure.
 c. Malware.
 d. All of the above.

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

9) 1 point

What kind of sensors are used in food packaging to track the quality of packaged food?
 a. Ultrasonic sensor
 b. Nano sensors
 c. Gas sensor
 d. Both a and b

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

10) 1 point

Which is not a part of signal conditioning circuit in a smart sensor?
 a. Level shifter
 b. Filters and amplifier
 c. Data converters
 d. Processor

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

11) 1 point

The functionality of the Cyber layer in 5C architecture is to provide
 a. Optimized decision
 b. Information correction
 c. Intelligent identification, data mining & analytics
 d. Data collection and interoperability

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

12) 1 point

For futuristic industrial plant, which is not true for the 5C architecture?
 a. Cyber layer defines the networking of the smart objects
 b. Conversion layer provides information correction
 c. Cognition layer enables optimized decision
 d. Control layer provides supervisory control

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

13) 1 point

Protection from cyber-attacks involves protection of-
 a. Hardware.
 b. Software.
 c. Data.
 d. All of the above.

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

14) 1 point

The benefits of operational efficiency are:
 a. Increased productivity
 b. Resource utilization
 c. Cost reduction
 d. All of the above

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

15) 1 point

Which of the following solutions are not provided by Stanley Black & Decker?
 a. Product assembly and engineering
 b. High-quality reliable pipeline
 c. Autonomous trucks
 d. Equipment for construction and maintenance

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.