Announcements

NPTEL » Introduction to Industry 4.0 and Industrial Internet of Things

# Unit 3 - Week 1

Course outline

**Assignment 1** How does an NPTEL online course work? Week 0 1) Week 1 serialization? a. CoAP Lecture 1 : Introduction: b. MQTT Sensing & Actuation c. XMPP Lecture 2 : Introduction: IoT Connectivity - Part I O Lecture 3: Introduction: IoT Connectivity - Part 2 ○ a. ○ b. Lecture 4 : Introduction: IoT Networking - Part 1 O c.  $\bigcirc$  d. Lecture 5 : Introduction: IoT Networking - Part 2 Score: 0 Week 1 : Lecture Material Accepted Answers: Quiz : Assignment 1 Week 1 Feedback Form 2) Which of the following enables IoT networks to bring together massive number of objects? Week 2 a. Dynamic Nature b. Connectivity Week 3 c. Intelligence d. Enormous Scale Week 4 Week 5 ○ a. ○ b. Week 6 O c. ○ d. Week 7 No, the answer is incorrect. Score: 0 Week 8 Accepted Answers: b. Week 9 3) Week 10 Which of the following Interface is related to CoRE? Week 11 a. Resource Interface b. Lookup Interface Week 12 c. Both a. and b. d. None of the above **Download Videos Text Transcripts** ○ a. **Detailed Assignment Solution** ○ b. O c. Live Interactive Session ○ d.

As per our records you have not submitted this assignment. d. IEEE 1888 No, the answer is incorrect.

No, the answer is incorrect.

a. QoS-0 b. QoS-1 c. QoS-2

d. Both b) and c)

Accepted Answers:

Score: 0

4)

○ a.

○ b.

O c.

○ d.

Score: 0

○ a.

○ b.

○ c.

○ d.

Score: 0

○ a.

○ b.

О c.

○ d.

Score: 0

b.

7)

○ a.

○ b.

Ос.

○ d.

c.

8)

○ a.

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О c.

○ **d**.

Score: 0

○ a.

○ b.

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Score: 0

C.

10)

○ a.

○ b.

○ c.

○ d.

Score: 0

11)

○ a.

○ b.

○ c.

d.

Score: 0

12)

○ a.

○ b.

○ c.

○ d.

Score: 0

b.

13)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

14)

○ a.

○ b.

О c.

○ d.

Score: 0

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

No, the answer is incorrect.

a. Microphone

c. Both (a) and (b) d. None of the above

b. Speaker

No, the answer is incorrect.

Accepted Answers:

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

No, the answer is incorrect.

a. 232 b. 7

No, the answer is incorrect.

Accepted Answers:

c. Both (a) and (b)

d. None of the above

a. Coordinator b. End Device c. Controller

a. Resource Limits Policy

b. Deadline Policy c. Time Filter Policy

d. Both a) and b)

Among the following, which is an actuator?

d. Router

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

No, the answer is incorrect.

a. Ring b. Bus c. Mesh

d. None of the above

Accepted Answers:

9)

No, the answer is incorrect.

a. Star

b. Mesh

c. Both (a) and (b) d. None of the above

Accepted Answers:

No, the answer is incorrect.

a. FDMA b. TDMA c. CDMA

d. None of the above

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

d.

6)

C.

5)

No, the answer is incorrect.

Accepted Answers:

I)

II)

a. Only I b. Only II c. I and II d. I and III

No, the answer is incorrect.

a. Star and Mesh

b. Star and Peer-to-Peer c. Mesh and Peer-to-Peer

d. None of the above

a. 902-929 MHz

c. Both (a) and (b) d. None of the above

b. 2400-2483.5 MHz

Accepted Answers:

The due date for submitting this assignment has passed. Which of the following protocol supports reading and writing of time-series data using XML

A client with limited buffer size and sensitive to packet loss prefers .....?

Which of the following statement(s) is/are true for CoAP protocol?

Uses GET message requests to retrieve subscription.

Uses PUSH message requests to create subscription.

Which of the following network topologies are supported by the IEEE 802.15.4 standard?

What is the operating frequency range for 6LoWPAN?

Which access method is implemented in WirelessHART?

What are the network topologies supported by a wireless HART network?

What is the network topology of Z-wave network?

What is the primary application area of ISA 100.11a?

c. Large scale industrial automation and monitoring

What is the maximum number of devices supported by a Bluetooth device?

Which of the following do not contribute in routing in a Zigbee network?

Which of the following resource utilization QoS policy limits amount of message buffering?

a. Home automation and monitoring b. Office Automation and monitoring

d. All the above

Uses PUT message requests to create subscription

**About the Course** Ask a Question

**Progress** 

Mentor

Due on 2020-02-12, 23:59 IST. 1 point

# Unit 4 - Week 2 Course outline How does an NPTEL online course work? Week 0 Week 1 Week 2 Lecture 6 : Industry 4.0: The Fourth Revolution Lecture 7 : Industry 4.0: Sustainability Assessment of Manufacturing Industry Lecture 8 : Industry 4.0: Lean Production System Lecture 9 : Industry 4.0: Smart and Connected Business Perspective O Lecture 10 : Industry 4.0: Smart Factories Week 2 - Lecture material O Quiz: Assignment 2 Week 2 Feedback Form Week 3 Week 4 Week 5 Week 6 Week 7 Week 8 Week 9 Week 10 Week 11 Week 12 **Download Videos Text Transcripts Detailed Assignment Solution** Live Interactive Session

The control of the co	As per ou	date for submitting this assignment has passed.  Due on 2020-02-12, 2  Due on 2020-02-12, 2	23:59
1	1)	a. In 1950s	
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A contract of the contract, which are and as the value of the four instruction of the contract	c. d.		
Second	Score: 0 Accepted b.	d Answers:	
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See	c. d.	Gene Sequencing	
Security of the content of the conte	○ b. ○ c.		
The content of the co	No, the ar Score: 0 Accepted		
Compared	d.	Which is/are part of automation pyramid of a smart factory?  a. Control.	
Secretary Secret		a. Control. b. ERP. c. Manufacturing execution system.	
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Secretary of the control of the cont	Od. No, the ar Score: 0		
The control of the co	Accepted d.	"An optimized smart factory optimizes the reliability of the product." Choose whether the statement is	
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We have a contract to the contract of the cont	b.		
Control of the c	Score: 0 Accepted a.		
A security and part of and part of any p	5)	a. To collect and acquire data from object or environment. b. Connect the smart devices. c. Equipped with different communication technology.	
See Section 1 Se			
And the second of second proof acrosity series in accessed good acrosity ac	○ b. ○ c. ○ c.		
The contract of the contract o	No, the ar Score: 0 Accepted		
A   Committee		a. New services.	
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See The Control of th	○ b. ○ c.		
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C. d. d. C. d. C. d. d. C. d.			
Which of the following to see our of the main characteristics of Designes Model?    Barrier   Which of the following is see our of the main characteristics of Designes Model?	○ b. ○ c.		
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d. Period of succession of maneral or information.  No. the Name of State Control of State		a. Excessive movements of people for materials or information b. Period of inactivity of people for material or information c. Non value added movement of people	
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b. c. d.  No, the answer is incorrect. Score: 0  Accepted Answers:	15)	c. Both (a) and (b)	
C. Od.  No, the answer is incorrect. Score: 0 Accepted Answers:	15)		
Score: 0 Accepted Answers:	○ a.		
	a. b. c. d.		

Announcements

## NPTEL » Introduction to Industry 4.0 and Industrial Internet of Things

The due date for submitting this assignment has passed.  As per our records you have not submitted this assignment.  1)  PLM maximizes— a. Product revenues and product's value. b. Product associated costs. c. All of the above. d. Only a.  a.  b. Collaboration Pletform and Product Ifercyuse Management Lecture 12: Industry 4.0: Collaboration Pletform and Product Ifercyuse Management Lecture 13: Industry 4.0: Lecture 13: Industry 4.0: Lecture 14: Industry 4.0: Lecture 15: Industry 4.0: Lecture 16: Industry 4.0: Lecture 18: Industry 4.0: Lecture 19: Industry 4.0		Accid	anment 3
pLM maximizes a. Product revenues and product's value. b. Product associated costs. c. All of the above. d. Only a.  a. Product revenues and product's value. b. Product associated costs. c. All of the above. d. Only a.  a. Data of the above. d. Only a.  a. Data of the above. d. Only a.  b. No. the answer is incorrect. Score: 0 Accepted Answers: d. Moughened Reality and Virtual Reality Augmented Reality and Virtual Reality and Virtual Reality and	w does an NPTEL online urse work?	The due date	e for submitting this assignment has passed.
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Industry 4.0: n Platform and cycle t t louistry 4.0: neality and Virtual linguace lindustry 4.0: Big vanced Analysis cture Material symment 3 dback Form    No, the answer is incorrect.   Score: 0	cal Systems and		
Score: 0  Accepted Answers:  d.  Key Performance Indicators (KPIs) are known as metrics. What are a. Set targets for the company. b. Reduce the profuct quality. c. Reduce the profuct d. Increase the time.  Key Performance Indicators (KPIs) are known as metrics. What are a. Set targets for the company. b. Reduce the profuct quality. c. Reduce the profuct d. Increase the time.  Assignment 3  a. b. c. d.  No, the answer is incorrect. Score: 0  Accepted Answers: a.  What is structured data? a. Data that can be easily organized. b. Managed by Structured Query Language (SQL) in databases. c. Stored in relational databases. d. All of the above.	e 12 : Industry 4.0:		
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Key Performance Indicators (KPIs) are known as metrics. What are a. Set targets for the company. b. Reduce the product quality. c. Reduce the profit. d. Increase the time.  a. Set sagint and Advanced Analysis k 3 - Lecture Material c: Assignment 3 k 3 Feedback Form  b. c. d. No, the answer is incorrect. Score: 0  Accepted Answers: a.  3)  What is structured data? a. Data that can be easily organized. b. Managed by Structured Query Language (SQL) in databases. c. Stored in relational databases. d. All of the above.	mented Reality and Virtual		
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a. b. c. d. No, the answer is incorrect. Score: 0 Accepted Answers: a.  3) What is structured data? a. Data that can be easily organized. b. Managed by Structured Query Language (SQL) in databases. c. Stored in relational databases. d. All of the above.	Lecture Material		
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Variety means in Big data- a. Category of the data such as structured data or unstructured b. Speed of generation data. c. Quantity of created data. d. All of the above.			<ul> <li>a. Category of the data such as structured data or unstructured da</li> <li>b. Speed of generation data.</li> <li>c. Quantity of created data.</li> </ul>

○ b.

O c.

○ d.

Score: 0

b.

No, the answer is incorrect.

Accepted Answers:

○ c.

 $\bigcirc$  d.

Score: 0

○ a.

○ b.

Ос.

○ d.

Score: 0

7)

○ a.

○ b.

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Score: 0

○ a.

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Score: 0

10)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

○ a.

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○ c.

○ d.

Score: 0

12)

○ a.

○ b.

Ос.

 $\bigcirc$  d.

Score: 0

13)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

14)

○ a.

○ b.

O c.

○ d.

Score: 0

15)

○ a.

○ b.

O c.

○ d.

Score: 0

No, the answer is incorrect.

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

No, the answer is incorrect. Score: 0

Accepted Answers:

No, the answer is incorrect.

a. Eight. b. Six. c. Nine. d. Ten.

Why data analytics is required?

d. All of the above.

a. For appropriate product recommendations.

Which devices are used for fully-immersive simulations?

a. Head mounted display b. Motion detecting devices

d. Both (a) and (b)

c. Machine gesture detection device

b. Helps to learn about competitors. c. Protect from wrongful decisions.

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

9)

No, the answer is incorrect.

b. auditory c. haptic

d. all of the above.

a. sensors and cameras

d. none of the above

Artificial intelligence is a

c. Both a and b

d. None

a. Creation of manmade thinking power

Significance of AI in Agriculture industry

a. Crop and soil monitoring

b. Precision agriculture c. Supply chain efficiency

d. All of the above

b. Creation of software having intuitive decision making ability

How many components are there in PLM to handle the product across it's lifecycle-

 b. mirror unit c. machines

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

6)

a.

No, the answer is incorrect.

What is redundancy mitigation?

c. Spot incorrect data. d. None of the above.

a. Eliminate repeated data through detection.

There are three steps in data acquisition. What they are?

b. Integration, Clearing and Visualization. c. Data collection, Clearing and Integration.

Smart sensors are defined as the combination of a sensor with

What are the sensor modalities used for Augmented Reality?

Which one is the key component of Augmented Reality devices?

d. None of the above.

What is the full form of PMU? a. Pulse measuring unit b. Phasor measuring unit c. Peak measuring unit

> a. Signal conditioning b. Embedded algorithms

c. Digital interface

d. All of these

d. None of these

a. Data collection, Data transmission and Data pre-processing.

b. Combine data from various sources.

Accepted Answers:

ent 3 ng this assignment has passed. ve not submitted this assignment. izesuct revenues and product's value. luct associated costs. of the above. a. formance Indicators (KPIs) are known as metrics. What are they used for? et targets for the company. Reduce the product quality. Reduce the profit.

**About the Course** 

Ask a Question

0 points

Progress

Mentor

Due on 2020-02-19, 23:59 IST. 1 point

Announcements

## NPTEL » Introduction to Industry 4.0 and Industrial Internet of Things

### Unit 6 - Week 4 Course outline **Assignment 4** How does an NPTEL online course work? Week 0 1) Week 1 Week 2 Week 3 Week 4 Lecture 16 : Industry 4.0: ○ a. Cybersecurity ○ b. Lecture 17 : Basics of O c. Industrial IoT: Introduction $\bigcirc$ d. O Lecture 18: Basics of No, the answer is incorrect. Industrial IoT: Industrial Score: 0 Internet Systems Accepted Answers: d. Lecture 19 : Basics of IIoT: Industrial Sensing & Actuation 2) What are the issues in IIoT which is caused by lack of standardization? Lecture 20 : Basics of a. Device interoperability Industrial IoT: Industrial b. Semantic interoperability (data semantics) Processes - Part 1 c. Security and privacy etc. Week 4 - Lecture Material d. All of them O Quiz: Assignment 4 Week 4 Feedback Form ○ a. Week 5 ○ b. O c. Week 6 d. Week 7 No, the answer is incorrect. Score: 0 Week 8 Accepted Answers: d. Week 9 3) Which one of them is not an example of cybersecurity issue in IIoT? Week 10 a. Data integrity in healthcare industries

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

○ a.

○ b.

O c.

○ d.

Score: 0

a.

5)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

6)

○ a.

○ b.

Ос.

 $\bigcirc$  d.

Score: 0

d.

7)

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

d.

8)

○ a.

○ b.

O c.

 $\bigcirc$  d.

○ a.

b.

○ c.

○ d.

Score: 0

10)

○ a.

○ b.

○ c.

0 d.

Score: 0

11)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

12)

○ a.

○ b.

Ос.

 $\bigcirc$  d.

Score: 0

b.

13)

○ a.

○ b.

O c.

○ d.

Score: 0

14)

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

d.

15)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

No, the answer is incorrect.

Accepted Answers:

No, the answer is incorrect.

Accepted Answers:

No, the answer is incorrect.

 a. Hardware. b. Software.

All of the above.

c. Data.

No, the answer is incorrect.

Accepted Answers:

Accepted Answers:

No, the answer is incorrect.

**Accepted Answers:** 

No, the answer is incorrect.

Accepted Answers:

d.

4)

No, the answer is incorrect.

Accepted Answers:

Week 11

Week 12

**Download Videos** 

Text Transcripts

**Detailed Assignment Solution** 

Live Interactive Session

As per our records you have not submitted this assignment. What are the benefits of advance analytics in IIoT? operational efficiency c. Analytical results can be applied in various applications d. All of the above

The due date for submitting this assignment has passed. a. Advanced analytics helps to enhance the working condition, increase machine life and optimize 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

b. Data confidentiality of food industries

d. Workers' security in mining industries

What is the landmark of the beginning of the first stage of the industrial revolution?

a. Mass production and Commercialization of steam engines

d. Development of new communication and transport systems

Which of them are not the benefits of industrial internet in rail transportation?

What are the catalysts in implementing industrial internet?

c. Improving cybersecurity management

b. Increasing infrastructure

d. All of the above

Which of these are cyber-attacks? a. Denial-of-service attack.

c. Trojans and viruses attack.

b. Password sniffing.

d. All of the above.

Application firewall is a-

Malware.

d. All of the above.

Software countermeasure.

Hardware countermeasure.

a. Ultrasonic sensor

Which is not a part of signal conditioning circuit in a smart sensor?

The functionality of the Cyber layer in 5C architecture is to provide

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

Protection from cyber-attacks involves protection of-

The benefits of operational efficiency are:

Which of the following solutions are not provided by Stanley Black & Decker?

a. Product assembly and engineering

d. Equipment for construction and maintenance

b. High-quality reliable pipeline

c. Autonomous trucks

a. Increased productivity Resource utilization

c. Cost reduction d. All of the above

c. Intelligent identification, data mining & analytics

d. Data collection and interoperability

 Nano sensors c. Gas sensor d. Both a and b

a. Level shifter

d. Processor

c. Data converters

a. Optimized decision b. Information correction

b. Filters and amplifier

c. The rail operator can monitor the trains and make optimal decisions and train scheduling

a. Innovations in terms of equipment, advance analytics, system platform, business processes

What kind of sensors are used in food packaging to track the quality of packaged food?

c. Power grid security

b. Invention of electricity

a. Reducing the maintenance cost Preventing engine breakdown

d. Availing more trains and rails

c. Mass Production of combustion engines

About the Course

Ask a Question Progress

Mentor

1 point

Due on 2020-02-26, 23:59 IST. 1 point

Mentor

0 points

1 point

### NPTEL » Introduction to Industry 4.0 and Industrial Internet of Things Unit 7 - Week 5 Course outline How does an NPTEL online course work? Week 0 1) Week 1 a. Ъ. Week 2 C. đ. Week 3 ○ a. Week 4 ○ b. Week 5 O c. $\bigcirc$ d. Lecture 21 : Basics of Industrial IoT: Industrial Processes - Part 2 Score: 0 Accepted Answers: Lecture 22 : Business Models and Reference Architecture for IIoT: Business Models - Part 1 How does the gateway devices act in the gateway-mediated edge architecture? Lecture 23 : Business Models Management point and Reference Architecture for a. Data transfer IIoT: Business Models - Part 2 Ъ. Local connectivity C. Lecture 24 : Business Models All of the above and Reference Architecture for IIoT: Reference Architecture -Part 1 ○ a. Lecture 25 : Business Models ○ b. and Reference Architecture for ○ c. IIoT: Reference Architecture - $\bigcirc$ d. Part 2 No, the answer is incorrect. Week 5 - Lecture Material Score: 0 Quiz: Assignment 5 Accepted Answers: Week 5 Feedback Form 3) Week 6 In which of the given below field/s layered databus pattern is applicable? Global monitoring a. Week 7 Ъ. Control Analytics C. Both (a) and (b) Week 8 đ. Week 9 ○ a. Week 10 ○ b. ○ c. Week 11 $\bigcirc$ d. Week 12 No, the answer is incorrect. Score: 0 **Download Videos**

**Text Transcripts** 

**Detailed Assignment Solution** 

Live Interactive Session

**Assignment 5** The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. How is safety defined in industrial perspective? Condition of the operating system No unexpected risk or damage Damage to the operating system is allowed Both (a) and (b). No, the answer is incorrect.

Accepted Answers:

Ъ.

C. đ.

No, the answer is incorrect.

Accepted Answers:

b.

c.

đ.

○ a.

○ b.

○ **d**.

Score: 0

○ a.

○ b.

○ c.

○ d.

Score: 0

7)

○ a.

○ b.

○ c.

○ d.

Score: 0

b.

8)

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

9)

○ a.

○ b.

О c.

 $\bigcirc$  d.

Score: 0

C.

10)

○ a.

○ b.

○ c.

d.

Score: 0

a.

11)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

12)

○ a.

○ b.

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 $\bigcirc$  d.

Score: 0

13)

○ a.

○ b.

Ос.

 $\bigcirc$  d.

14)

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

15)

6)

) c.

No, the answer is incorrect.

a.

b.

C.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

C.

No, the answer is incorrect.

Business function includes

Supports business processes

Procedural activities

How is effect defined in an activity?

State of the CPS system Structure of the system

Structure of the CPS system

State of the IIoT system after completion of an activity

Service-oriented business models offer utilization, aggregation and analysis of -

employ\_

to gather data and information.

Both (a) and (c)

Do not support any business process

Accepted Answers:

a.

Ъ.

C.

No, the answer is incorrect.

Accepted Answers:

Ъ.

C.

No, the answer is incorrect.

Ъ.

C. đ.

No, the answer is incorrect.

b.

C.

đ.

No, the answer is incorrect.

Accepted Answers:

Ъ.

C. đ.

No, the answer is incorrect.

b.

C.

No, the answer is incorrect.

Accepted Answers:

a.

b.

C.

No, the answer is incorrect.

Negotiation

Auction

List price

Real time market

Accepted Answers:

a.

b.

C. d.

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

d.

No, the answer is incorrect.

Accepted Answers:

Accepted Answers:

Accepted Answers:

Data Products

Services

Software

Companies operating a \_\_\_\_\_

a. Process-oriented BMs, Cloud-based BMs

Cloud-based BMs, Service-Oriented BMs

Service-oriented BMs, Cloud-based BMs

Cloud-based BMs, Process-oriented BMs

Value configuration for process-oriented business models includes -

Patents and copyrights are examples of which of the following type of resources -

Mastering complex production processes Maintenance and development of platforms

Development of cloud services

None of the above

Physical Intellectual

Human

Partnerships and alliances -Reduce risks

Increase risks

Have no effect on risks

Which of the following is not an example of dynamic pricing?

None of the above

Financial

Accepted Answers:

optimization

Accepted Answers:

How is a task defined in IIoT?

Not measured by time Not bounded by time

None of the above

How does an implementation map works? Participates in the task Execution of the task

None of the above

Functional component of task

Which functions are performed in the operation domain of functional viewpoint?

Provision, register, monitor, and track the resources

Provision, monitor, optimize, configure, and remotely manage the resources

Track, configure, register, monitoring, optimization and manage the resources

How do prognostics in operations domain help in IIoT systems from the functional viewpoint?

Acts as prescriptive analytics engine

Acts as both predictive and prescriptive analytics engine

Acts as predictive analytics engine

None of the above

Configure, track, register, deploy, remotely manage the resources, prognostics, monitoring, and

Foundation block of work

4)

○ a.

○ b.

О c.

 $\bigcirc$  d.

Score: 0

C.

5)

Progress

**About the Course** 

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1 point

Due on 2020-03-04, 23:59 IST. 1 point

1) Why do we need IIoT? Detecting machine failure Improving safety b. Preventing machine failure C.

No, the answer is incorrect.

An IoT device consists of \_\_

Wireless communication module

Sensor

Processor

All of the above

UART

I2C

ADC

None of the above

Gas sensing in calorimetric method is based on

Both b and c

Both b & c are true

What do you understand by stability of the sensor?

Stability is associated with aging of sensor

What is the data rate for Ethernet/IP protocol?

Which of the following is considered as the root for Profinet?

Which of the following is characteristic for Time-Sensitive Networking (TSN)?

If a sensor reaches its stable output in time constant period

Robustness in the gas sensing property of gas sensor in a long time period when exposed

Floroscence properties of the sensing material

Change in temperature at the catalyst surface

Change in the resistance of the sensing material

Which of the following is not true about the Chemi-resistive gas sensor?

In n-type sensor the resistance decreases when exposed to reducing gas

In n-type sensor the resistance increases when exposed to reducing gas

In p-type sensor the resistance decreases when exposed toreducing gas

Accepted Answers:

a.

b.

c.

đ.

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

4)

3)

No, the answer is incorrect.

b.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

b.

C.

đ.

No, the answer is incorrect.

Accepted Answers:

Ъ.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

C.

No, the answer is incorrect.

a.

b.

C.

đ.

No, the answer is incorrect.

a.

b.

C.

d.

No, the answer is incorrect.

Ring

Star

Bus

All of the above

CC-Link/LT CC-Link IE

CC Link Safety

None of the above

Return to Zero

No encoding

Non return to Zero

None of the above

Discrete Multitone Technology

Multiple Virtual Line

All of the above

Baseline analytics Prognostic analytics

Diagnostic analytics

Improvement of business value due to IIoT analytics stems from:

None of the above

Data-driven insights Better connectivity

Real-time processing

Both a) and c)

Carrierless Amplitude Modulation

Accepted Answers:

a.

b.

C.

Accepted Answers:

Accepted Answers:

○ a.

○ b.

O c.

d.

Score: 0

○ a.

○ b.

О c.

d.

Score: 0

8)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

○ a.

○ b.

○ c.

○ d.

Score: 0

C.

10)

○ a.

○ c.

○ d.

Score: 0

11)

○ a.

○ b.

O c.

○ d.

Score: 0

12)

○ a.

○ b.

○ c.

○ d.

Score: 0

13)

○ a.

○ b.

O c.

○ d.

Score: 0

14)

○ a.

○ b.

O c.

○ d.

Score: 0

15)

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

No, the answer is incorrect.

Accepted Answers:

b.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

b.

c.

No, the answer is incorrect.

a.

b.

c.

No, the answer is incorrect.

b.

C.

đ.

No, the answer is incorrect.

Accepted Answers:

Ъ.

C.

d.

No, the answer is incorrect.

Accepted Answers:

Accepted Answers:

Accepted Answers:

b.

to hostile ambience.

Slow aging

1000 bytes

1200 bytes 1500 bytes

All of the above

Ethernet/IP

Both (a) and (b)

Time-aware

Time-schedule

Both (a) and (b)

None of the above

Which of the following topology is supported by Profibus?

Which of the following is a bit-oriented system?

Which encoding scheme is followed by DeviceNet while signal transmission?

Which of the following modulating technology is considered by Digital Subscriber Line (DSL)?

A fault has been discovered in a manufacturing process. The system has been taken offline and a system

engineer has been tasked with fixing the problem. What type of analytics should he run?

None of the above

EtherCat

○ a.

○ b.

О c.

 $\bigcirc$  d.

Score: 0

6)

○ a.

○ b.

О c.

 $\bigcirc$  d.

Score: 0

5)

Accepted Answers:

đ.

○ a.

○ b.

О c.

 $\bigcirc$  d.

Score: 0

d.

2)

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

What is the suitable peripheral interfacing protocol of accelerometer ADXL335 sensor?

**About the Course** Announcements

**Assignment 6** 

All of the above

1 point

1 point

1 point

1 point

0 points

1 point

1 point

1 point

1 point

0 points

1 point

1 point

1 point

1 point

1 point

**Progress** Ask a Question

Unit 8 - Week 6

How does an NPTEL online

Lecture 26 : Key Enablers of

O Lecture 27 : Key Enablers of

Lecture 28 : Key Enablers of

Industrial IoT: Connectivity-

Lecture 29 : Key Enablers of

Industrial IoT: Connectivity-

O Lecture 30 : Key Enablers of Industrial IoT: Connectivity-

Week 6 Lecture Material

Week 6 Feedback Form

Quiz : Assignment 6

Industrial IoT: Sensing-Part 1

Industrial IoT: Sensing-Part 2

course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Part 1

Part 2

Part 3

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

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**Text Transcripts** 

**Detailed Assignment Solution** 

Live Interactive Session

Course outline

- Mentor
- Due on 2020-03-11, 23:59 IST.

Course outline

course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Part 4

Part 5

Part 1

Part 2

Week 8

Week 9

Week 10

Week 11

Week 12

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Lecture 31 : Key Enablers of Industrial IoT: Connectivity -

 Lecture 32 : Key Enablers of Industrial IoT: Connectivity -

Lecture 33 : Key Enablers of

Industrial IoT: Processing -

Lecture 34 : Key Enablers of

Industrial IoT: Processing -

O Lecture 35 : Key Enablers of

Week 7 - Lecture Material

Quiz : Assignment 7

Week 7 Feedback Form

Industrial IoT: Process Control

How does an NPTEL online

The due	date for su	ment
1)	In Sma	ırt warehousir
	a. b. c. d.	Web server Administra Smart gates None of the
<ul><li>a.</li><li>b.</li><li>c.</li><li>d.</li></ul>		
Score: 0	answer is in d Answers:	
2)		

b.

c.

đ.

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

○ a.

○ b.

○ c.

○ d.

Score: 0

a.

4)

○ a.

○ b.

О c.

○ d.

Score: 0

○ a.

○ b.

О c.

d.

Score: 0

○ a.

○ b.

○ c.

○ d.

Score: 0

C.

7)

6)

C.

5)

3)

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

a.

b.

C.

đ.

No, the answer is incorrect.

a.

b.

c.

d.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

control

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

c.

đ.

No, the answer is incorrect.

Sensor

Memory unit

None of the above

What does EC-GSM-IoT stand for?

None of the above

What is the data rate for CAT-NB1?

None of the above

Which of the following is the average range supported by Sigfox?

Which of the following is size of NodeMCU memory?

Which of the following statements is true for open loop control?

Batch-oriented manufacturing processes

Highly distributed plants having huge number of control loops

The control action from the controller is dependent on the process output.

The control action from the controller is independent of the process output.

The control action from the controller is independent of the process input.

200 Kbps

20 Kbps

30-50 km

3-10 km

256 Kb

128 Kb

None of the above

None of the above

64 Kb

Both (a) and (b)

None of the above

 $250~\mathrm{Kbps}$ 

Extended Connectivity GSM IoT

Extended Coverage GSM IoT

Enhanced Coverage GSM IoT

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

C.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

b.

C.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

a.

b.

c.

đ.

No, the answer is incorrect.

a.

Ъ.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

DCS is used in -

Both a and b

None of the above

Accepted Answers:

Accepted Answers:

○ a.

○ b.

○ c.

○ d.

Score: 0

C.

13)

○ a.

○ b.

○ d.

Score: 0

14)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

15)

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

C.

c.

○ a.

○ b.

О c.

○ d.

Score: 0

10)

○ a.

○ b.

○ c.

○ d.

Score: 0

b.

11)

○ a.

○ b.

○ c.

d.

Score: 0

12)

○ a.

○ b.

O c.

d.

Score: 0

9)

All of the above

None of the above

Which of the following is not a component of PLC?

Communication module

Accepted Answers:

a.

b.

C.

đ.

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

d.

8)

Accepted Answers:

Accepted Answers:

Ask a Question Progress

assignment has passed. submitted this assignment. ng systems, sensors and actuators are connected through: ator way e above

Which of the following is not part of the IoT layer in IIoT-based industrial manufacturing? Communication infrastructure a.

Which one of the following is not related to complex event processing (CEP)?

Extraction of causal and temporal patterns using predefined rules

Correlation among multiple streams for generating meaningful output

Cannot handle multiple data streams

Which of the following is not true in to IIoT processing?

None of the above

Different topology - sensor, room, floor

Which one of the following is true for IIoT processing and analytics?

The business process analytics is of three types

Which of the following is not true for current CEP systems?

Message queues are not scalable

None of the above

It provides increased flexibility

The message queues are not scalable and incurs higher latency

Existing servers are fully utilized by deploying more servers

Which of the following are true for self-organized multi-agent system in a smart factory?

Which one of the following is not true for Line Information System Architecture (LISA)?

It is a loosely-coupled system with prototype oriented information model

It does not provide interoperability between the standard communication interfaces

It provides an event-driven information system

The concept of self-organizing is achieved by intelligent negotiation between the agents

Cloud-based big data processing framework assists the self-organization & supervisory

Different phases - produces, consumer, modelling

Workload of sensor topology is reduced compared to room topology

Prescriptive analytics deals with "what already happened and currently happening"

Predictive analytics deals with "what & why to perform some action"

Descriptive analytics deals with "Data mining/Web mining/ Predictions"

Near real-time processing

Mentor

Announcements

Unit 9 - Week 7

Manufacturing resources

User interface

Manufacturing capabilities

1 point

0 points

1 point

1 point

1 point

1 point

About the Course

- Due on 2020-03-18, 23:59 IST. 1 point

Unit 10 - Week 8

How does an NPTEL online

Course outline

course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Lecture 36 : IIoT Analytics and

 Lecture 37 : IIoT Analytics and Data Management: Machine

Learning and Data Science -

 Lecture 38 : IIoT Analytics and Data Management: Machine Learning and Data Science -

Lecture 39 : IIoT Analytics and

Data Management: Cloud

Computing in IIoT – Part 1

Computing in IIoT - Part 2

Week 8 - Lecture Material

Quiz : Assignment 8

Week 8 Feedback Form

 Lecture 40 : IIoT Analytics and Data Management: Cloud

Data Management:

Introduction

Part 1

Part 2

Week 9

Week 10

Week 11

Week 12

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Live Interactive Session

Agent is guided by an external supervisor who has the knowledge of the environment

## NPTEL » Introduction to Industry 4.0 and Industrial Internet of Things

1)

a.

Ъ.

c.

đ.

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

a.

2)

### **Assignment 8** The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

In reinforcement learning

Both a and b

Which one of the following is correct?

complement to cloud computing

replacement of cloud computing

substitution of cloud computing

none of the above

Both a and b

None

None

No, the answer is incorrect.

Accepted Answers:

a.

b.

c. đ.

( a.

○ b.

O c.

3)

d.

a.

b.

c. đ.

○ a.

○ b.

О c.

○ d.

Score: 0

○ a.

○ b.

О c.

d.

Score: 0

a.

5)

4)

No, the answer is incorrect.

Fog computing is a

No, the answer is incorrect.

a.

b.

C.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

c. đ.

No, the answer is incorrect.

Accepted Answers:

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

7)

○ a.

○ b.

O c.

○ d.

Score: 0

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

9)

○ a.

○ b.

○ c.

d.

Score: 0

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

11)

○ a.

○ b.

O c.

O d.

Score: 0

b.

12)

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

b.

13)

○ a.

○ b.

○ c.

d.

Score: 0

14)

○ a.

○ b.

O c.

d.

Score: 0

○ a.

○ b.

○ c.

O d.

Score: 0

d.

No, the answer is incorrect.

Accepted Answers:

8)

No, the answer is incorrect.

a. Homogeneity b. Productivity c. Abstraction

No, the answer is incorrect.

c. Both (a) and (b) d. None of the above

No, the answer is incorrect.

Accepted Answers:

Accepted Answers:

d. None of the above

The digital twin technology implies:

a. Onsite control and management

Connected world of devices and assets

b. Smart and secure alliance

d. All of the above

No, the answer is incorrect.

b.

C.

đ.

No, the answer is incorrect.

a.

b.

c.

đ.

No, the answer is incorrect.

a. Only statement A is true b. Only statement B is true c. Both Statements are true

d. None of them are true

Accepted Answers:

the infrastructure

decisions to cloud. None of the above

delegating every decision to cloud

Consider the following statements and choose the correct option.

Statement A: Fog computing offers better scalability Statement B: Fog computing helps in decreasing delay

Why is the fog computing suitable for mining industry?

Which of the following fog platform produces the FogOS?

c. It is a highly risky environment

d. All of the above

No, the answer is incorrect.

Accepted Answers:

a. Sonm b. Crosser c. FogHorn

No, the answer is incorrect.

Accepted Answers:

d. Nebbiolo Technologies

a. It is the scenario where processing of data can be delayed

b. The scenario is suitable for the implementation of the fog computing

Accepted Answers:

Accepted Answers:

a. Technology that enables to increase the production b. Technology that enables prediction and optimization

The major services of the cloud provided by Honeywell includes:

Go through the statements and choose the correct option.

Both statement I and II are correct

Only statement I is correct

Only statement II is correct

Both statement I and II are false

Statement I: Centralized cloud-based solution for IoT suffers from latency problems.

Suppose a cloud vendor provides features of edge intelligence. What does it exactly mean?

Devices at the edge of network can take all the decisions and there is no need of cloud in

Devices at the edge of network can take some decisions based on local data rather than

Devices at the edge of network work act as forwarding devices to delegate all the

Statement II: Fog based decentralized solutions has no support for reducing latency issues.

Accepted Answers:

None

○ a.

○ b.

O c.

○ d.

Score: 0

6)

Accepted Answers:

Accepted Answers:

No external supervisor to guide the agent

Fuzzy-c means can be extremely faster than K-means

Which one of the following is true for Reinforcement learning algorithm?

behaviors for an environment

for an environment

The main requirements of deep learning are \_

Low quality and low quantity data

Low quality and high quantity data

High quality and low quantity data

High quality and high quantity data

In deep learning, deep refers to the \_\_\_\_\_

Number of hidden layers

Number of input layers

Number of output layers

a. High data storage capacity

One of the important characteristics of cloud is \_

c. High Scalability d. All of the above

b. High computational speed of processing data

Which of the following option is true about the cloud features offered for IIoT?

Both a and b

None

Enables machines to improve its performance by automatically learning the ideal

Enables machines to improve its performance by manually learning the ideal behaviors

K-means is faster than Fuzzy-c means

Mentor

1 point

# reviewer4@nptel.iitm.ac.in ~

Progress

Due on 2020-03-25, 23:59 IST.

Mentor

1 point

1 point

NPTEL » Introduction to Industry 4.0 and Industrial Internet of Things

Unit 11 - Week 9 Course outline How does an NPTEL online course work? Week 0 Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8 Week 9 Lecture 41 : Analytics and Data Management: Fog Computing in IIoT O Lecture 42: IIoT Analytics and Data Management: Tutorial for R & Julia Programming Lecture 43 : IIoT Analytics and Data Management: Data Management with Hadoop O Lecture 44: IIoT Analytics and Data Management: Data Center Networks Lecture 45 : Advanced Technologies: Software-Defined Networking (SDN) in IIoT - Part 1 Week 9 -Lecture Material O Quiz: Assignment 9 Week 9 Feedback Form Week 10 Week 11 Week 12 **Download Videos Text Transcripts Detailed Assignment Solution** Live Interactive Session

### **Assignment 9** The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. 1) In a data center, MapReduce is used for \_\_\_\_\_ Metadata generation a. Web indexing b. Controlling data storage c. None of these đ. ○ a. ○ b. ○ c. $\bigcirc$ d. No, the answer is incorrect. Accepted Answers: b. 2) BCube forms a \_\_\_\_\_ graphs. Edge-disjoint complete a. Fully connected b. K-ary c. None of these đ. ○ a. ○ b. O c. ○ d. No, the answer is incorrect. Score: 0 Accepted Answers:

Which of the following is not true for a DCN?

Inward facing applications

None of these

Running multiple concurrent

Internal computational applications

3)

a.

b.

c.

đ.

No, the answer is incorrect.

K

K/2

K/4

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

c.

đ.

No, the answer is incorrect.

BSR follows a

No, the answer is incorrect.

No, the answer is incorrect.

Accepted Answers:

a. b.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

MongoDB uses

NoSQL MySQL

Relational

Both (a) and (c)

Accepted Answers:

b.

C.

đ.

No, the answer is incorrect.

Full form of GFS --

Geographical File System

The declaration of variables in R \_\_\_\_\_\_

Need to specify datatype

"\$" sign is used in Julia programming for \_\_

String interpolation

String concatenation

Which one of the following is correct statement for string concatenation?

Assigning string

None

string(s3,s4)

string s3+s4

string s3,s4

A flow-rule consists of several:

Routing table

Flow-table

Match-fields

All of the above

None

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

c.

d.

No, the answer is incorrect.

Accepted Answers:

○ a.

○ b.

○ c.

○ d.

Score: 0

Do not need to specify datatype

Have only one specific way

Generic File System Google File System

None of these

Accepted Answers:

a.

c.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c. d.

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

13)

None

No, the answer is incorrect.

Accepted Answers:

b.

c.

d.

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

c.

d.

○ a.

○ b.

○ c.

○ d.

Score: 0

15)

○ a.

○ b.

○ c.

○ d.

Score: 0

a.

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

12)

○ a.

○ b.

O c.

○ d.

Score: 0

d.

11)

○ a.

○ b.

○ c.

○ **d**.

Score: 0

10)

○ a. ○ b.

○ c.

○ **d**.

Score: 0

Accepted Answers:

a.

Ъ.

c.

đ.

○ a.

○ b.

O c.

d.

Score: 0

C.

8)

Accepted Answers:

a. b.

c.

○ a.

b.

○ c.

 $\bigcirc$  d.

Score: 0

7)

 $(K/2)^2$ 

Sensor monitoring

WSN manage and optimization

Distance Vector Routing Protocol

Source Routing Protocol Border Gateway Protocol

None of these

The Software-defined DCN enables

Both (a) and (b)

Which of the following is false.

Which of the following is true?

None of these

Datanode stores metadata

Datanode stores actual data

Files are divided into multiple blocks

MongoDB is essential to work on Hadoop

Hadoop is essential to work on MongoDB

database.

Blocks are replicated in Hadoop

None of these

Virtualized data storage

Data Center as a service

Data acquisition

All of the above

Accepted Answers:

a.

Ъ.

c.

đ.

○ a.

○ b.

○ c.

○ d.

Score: 0

5)

○ a.

○ b.

○ c.  $\bigcirc$  d.

Score: 0

d.

6)

○ a.

○ b.

O c.

○ d.

Score: 0

1 point

1 point 0 points 1 point 1 point 1 point 1 point 0 points 1 point 1 point 1 point

In a k-ary fat tree, each core switch connects to \_\_\_\_\_ pods. The control-plane in software-defined WSN is responsible for: MongoDB depends on Hadoop for complex analysis

1 point 1 point



PTEL » Introduction to Industry 4	.0 and Industrial Internet of Things	Announcements
Init 12 - Week 10		
Course outline	Assignment 10	
low does an NPTEL online ourse work?	Assignment 10  The due date for submitting this assignment 1  As per our records you have not submitted the	
/eek 0		io doolgiiiiioiiii
Veek 1	Which of the following connectivity is	used in Pulse oxiometry?
eek 2	a. Zigbee b. Bluetooth	
eek 3	c. Wifi d. All of the above	
k 4	d. All of the above	
5	○ a.	
<b>6</b>	○ b. ○ c.	
	○ d.	
	No, the answer is incorrect. Score: 0	
8	Accepted Answers: b.	
9	2)	
k 10	IoT based contact lenses are used for	r:
ture 46 : Advanced nnologies: Software- ned Networking (SDN) in – Part 2	a. Monitoring ECG b. Monitoring heart rate c. Monitoring glucose level d. None of the above	
ure 47 : Advanced nologies: Security in IIoT	○ a.	
48 : Advanced logies: Security in IIoT	○ b. ○ c. ○ d.	
re 49 : IIoT Applications: ories and Assembly Line	No, the answer is incorrect. Score: 0 Accepted Answers:	
ure 50 : IIoT Applications: d Industry	C.	
eek 10 - Lecture Material	3) Which of the following is the first step	of IIOT healthcare architectu
iz : Assignment 10	a. Sending	
ek 10 Feedback Form	b. Sensing c. Processing	
11	d. Monitoring	
12	○ a.	
oad Videos	○ b. ○ c.	
anscripts	○ d.	
Assignment Solution	No, the answer is incorrect. Score: 0	
tive Session	Accepted Answers: b.	
	4)	
	IIoT makes the power plant fully autor	nated using
	a. Smart grid b. Transformer	
	c. None of the above d. All of the above	
	○ a. ○ b.	
	○ c. ○ d.	
	No, the answer is incorrect. Score: 0 Accepted Answers:	
	a.  5)  IIoT based devices for power plant ind	ustry are standardized with

TCP/IP protocol

All of the above

Zigbee is used in which network

Home Area Network

Field Area Network

None of the above

Neighborhood Area Network

Factory of the Future is a digital manufacturing initiative launched by

Construction Internet of Things initiative launched by DeWalt

uses IoT platform and Wi-Fi mesh network.

monitors small-scale sites only.

produces 800 cars per day.

All of the above

A collaborative robot.

A driverless truck.

None of the above

An Augmented Reality (AR) app.

Which of the following is not a security goal?

Resilience in a trustworthy environment means:

Ability of the system to function correctly on dynamic adversarial conditions

Protecting the system from Unauthorized access, modification and destruction

Restriction on data access - who can access and by whom it can be disclosed

Safe operations of device and people without any risks and injury

Which of the following is a distinguished reason for IIoT security?

Security supports integrating IT and OT components

Authentication of devices

Authentication methods

Heat Analyzer and Critical Control Points.

Hazard Analysis and Critical Control Points.

Heat Analysis and Common Control Points.

Hazard Analyzer and Common Control Points.

Which of the following is monitored by the sensors deployed in the farm?

Which of the following is a feature of an IoT-enabled farm?

Drone-assisted field monitoring

GPS tracking

All of the above

None of the above

Privacy preserving protocols

Confidentiality

Heterogeneity

Integrity

Availability

None of the above

IPV6 protocol

a.

b.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

Kuka.

Airbus.

DeWalt.

ABB.

**Accepted Answers:** 

a.

Ъ.

c.

d.

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

c.

a.

No, the answer is incorrect.

YuMi by ABB is

Accepted Answers:

a.

Ъ.

c.

d.

No, the answer is incorrect.

**Accepted Answers:** 

a.

Ъ.

c.

d.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

a.

b.

c.

đ.

**Accepted Answers:** 

○ a.

○ b.

О c.

 $\bigcirc$  d.

Score: 0

10)

○ a.

○ b.

○ c.

○ d.

Score: 0

11)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

12)

○ a.

○ b.

O c.

○ d.

Score: 0

b.

13)

No, the answer is incorrect.

HACCP stands for

Accepted Answers:

a.

b.

C.

đ.

No, the answer is incorrect.

Weather

Presence of insects

Crop maturity

All of the above

Accepted Answers:

a.

Ъ.

C. đ.

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

C.

đ.

No, the answer is incorrect.

Accepted Answers:

○ a.

○ b.

○ c.

○ d.

Score: 0

○ a. ○ b.

○ c.

 $\bigcirc$  d.

Score: 0

14)

○ a.

○ b.

O c.

d.

Score: 0

15)

○ a.

○ b.

О c.

 $\bigcirc$  d.

Score: 0

9)

○ a.

○ b.

○ c.

○ **d**.

Score: 0

b.

8)

○ a.

○ b.

O c.

 $\bigcirc$  d.

Score: 0

7)

○ a.

○ b.

О c.

 $\bigcirc$  d.

Score: 0

6)

**About the Course** 

Ask a Question

**Progress** 

Mentor

1 point

Due on 2020-04-08, 23:59 IST.





















Unit 13 - Week 11

Course outline

course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Healthcare

Power Plants

Quality Control

Lecture 51 : IIoT Applications:

Lecture 52 : IIoT Applications:

Lecture 53 : IIoT Applications:

Lecture 54 : IIoT Applications:

Lecture 55 : IIoT Applications:

Facility Management

Quiz : Assignment 11

Week 12

**Download Videos** 

**Text Transcripts** 

Week 11 Feedback Form

**Detailed Assignment Solution** 

Live Interactive Session

Week 11 - Lecture Material

Plant Security and Safety

Inventory Management &

How does an NPTEL online

# NPTEL » Introduction to Industry 4.0 and Industrial Internet of Things

## 1) Building management involves:

a.

Ъ.

c.

đ.

No, the answer is incorrect.

Wi-Fi

Li-Fi

No, the answer is incorrect.

a.

b.

c.

đ.

No, the answer is incorrect.

True

False

a.

b.

c.

đ.

No, the answer is incorrect.

How does IIoT help in supply chain?

Stock In and Out

Sale of products

Supply of products

Distribution of products

Lead time is the duration between

Initiation and completion of a production process

Initiation and manufacture of a production process

Has nothing to do with production process

What is expected from effective inventory management?

Anticipate demand

All of the above

Inventory monitoring

Objectives of quality control include:

Inventory monitoring

Periodic inspection

Proper order cycles

Passive RFID tags continuously transmit data

Which of the following is an encrypted connection from a mobile device to a network?

Storage of goods

True

False

Endpoint security

Virtual Private Network

Cloud access security broker

Which of the following generates an artificial interactive environment?

Which of the following isolates the user to a different world?

Barrier between trusted internal network and the external networks is:

Both virtual and augmented reality

Secure web gateway

Classification of inventories

Manufacture and completion of a production process

Accepted Answers:

a.

Ъ.

c.

đ.

No, the answer is incorrect.

a.

Ъ.

C.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

b.

c.

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

c.

đ.

No, the answer is incorrect.

a.

b.

No, the answer is incorrect.

b.

đ.

No, the answer is incorrect.

Virtual Reality

Augmented Reality

None of the above

Virtual Reality

Augmented Reality

None of the above

Both virtual and augmented reality

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

Accepted Answers:

a.

Ъ.

No, the answer is incorrect.

Device security includes:

Tablets

Laptops

Smart phones

All the above

Application security

Behavioral analytics

Firewalls

Intrusion prevention systems

Accepted Answers:

a.

b.

c.

đ.

No, the answer is incorrect.

a.

b.

c.

d.

No, the answer is incorrect.

Accepted Answers:

Accepted Answers:

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

13)

○ a.

○ b.

O c.

d.

Score: 0

14)

○ a.

○ b.

Ос.

○ d.

Score: 0

15)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

Accepted Answers:

Accepted Answers:

○ a.

○ b.

○ c.

○ d.

Score: 0

b.

10)

○ a.

○ b.

Score: 0

b.

11)

○ a.

○ b.

О c.

○ d.

Score: 0

b.

12)

○ a.

○ b.

○ c.

○ d.

Accepted Answers:

○ a.

○ b.

Ос.

 $\bigcirc$  d.

Score: 0

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

8)

b.

7)

No, the answer is incorrect.

Accepted Answers:

Accepted Answers:

a.

Ъ.

○ a.

○ b.

Score: 0

a.

5)

○ a.

○ b.

○ d.

Score: 0

6)

Accepted Answers:

Bluetooth

None of the above

Accepted Answers:

Ъ.

c.

đ.

○ a.

○ b.

○ c.

 $\bigcirc$  d.

3)

○ a.

○ b.

○ c.

 $\bigcirc$  d.

Score: 0

4)

○ a.

○ b.

O c.

○ d.

Score: 0

d.

2)

**Assignment 11** The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Operations

Maintenance

All the above

Scheduling and planning

What new technology can be used within facilities?

Apart from operations conducted in a building, facility management also:

Facility management increases operating efficiency and reduce maintenance cost.

Cost Management

Ageing inventory

Security Management

Which of the following helps to stand out from competitors in facility management?

Changing regulatory and compliance standards

Support services for organizations

All the above

Integrates people, place and process

Improve quality of working environment

Announcements

About the Course

Ask a Question Mentor Progress

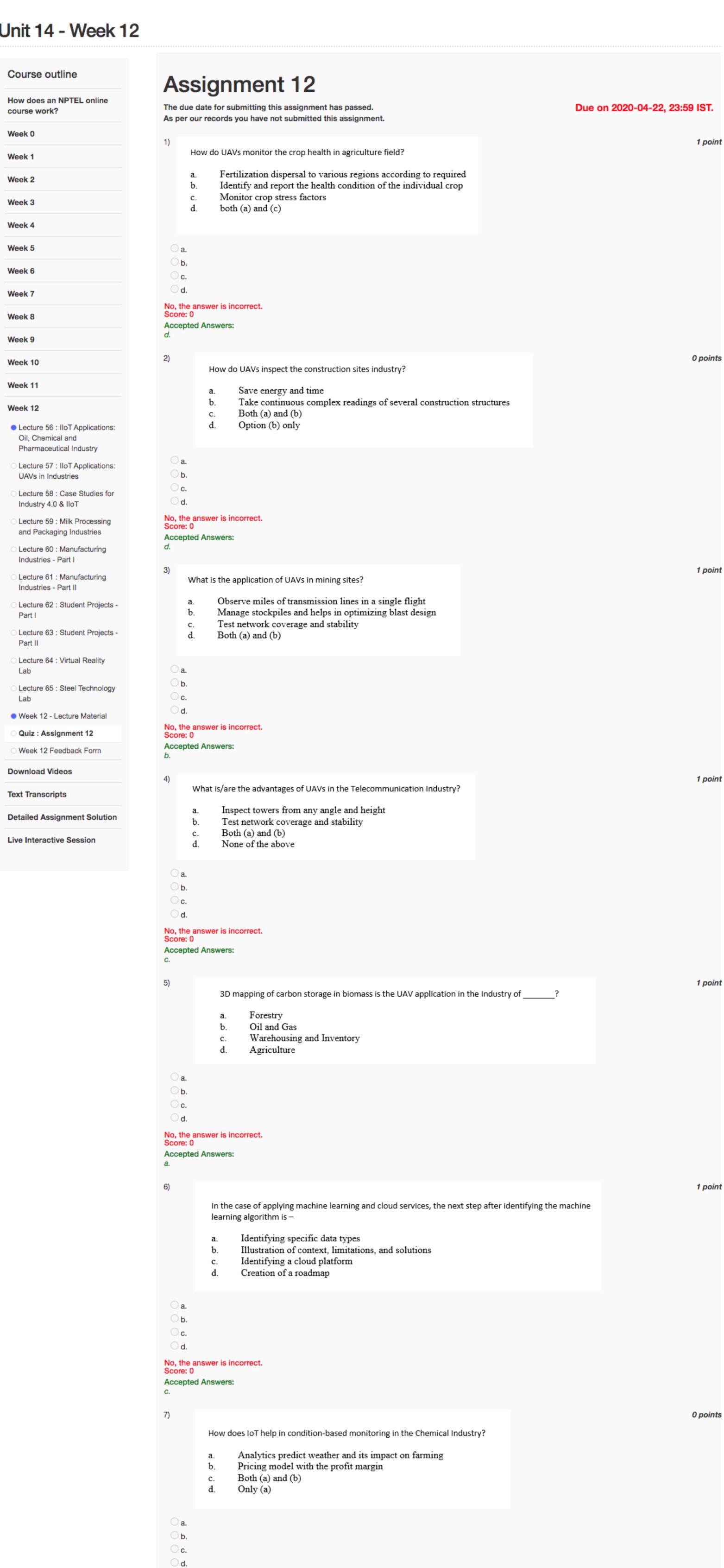
Due on 2020-04-15, 23:59 IST.

1 point

0 points

0 points

### Unit 14 - Week 12



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

Water, nutrients, and pesticides analysis

Ensure product location through sensors or RFID tags b. Detect Adverse Drugs Reaction (ADR) c. đ. Detect allergic reaction ○ a. ○ b. ○ c. d. No, the answer is incorrect.

How the logistics chain is much improved with the IoT in the Chemical Industry?

Access huge data of different manufacturing departments a. Industries are able to control, manage and supervise the production floor remotely in real b. time. Both (a) and (b) c. Option (b) only đ. ○ a. ○ b. ○ c.

The reason behind the high deployment of IoT sensors in Pharmaceutical Industry is/are -

10) IoT can help pharmaceutical companies to improve logistics in the Pharmaceutical Industry bya.

No, the answer is incorrect.

Accepted Answers:

8)

Score: 0

d.

Score: 0

○ a.

○ b.

O c.

d.

Accepted Answers:

C.

9)

Accepted Answers:

a.

Inspecting the maintenance of medicine and vaccines Maintaining of machines and equipment b. Option (a) only c. Both (a) and (b) đ. No, the answer is incorrect. Score: 0