

## WEEK 4 2020A

# 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) What are the benefits of advance analytics in IIoT? 1 point
- 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) What are the issues in IIoT which is caused by lack of standardization? 1 point
- 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) Which one of them is not an example of cybersecurity issue in IIoT? 1 point
- 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) Application firewall is a- 1 point

- 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) The functionality of the Cyber layer in 5C architecture is to provide 1 point
- 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) For futuristic industrial plant, which is not true for the 5C architecture? 1 point
- 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) Protection from cyber-attacks involves protection of- 1 point
- 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.

## Week 4 Assignment 4

Assignment not submitted

Due date: 2021-02-17, 23:59 IST.

1) What are the components of a future industrial plant? *1 point*

- a. Industrial processes
- b. Sensors/Actuators
- c. Traditional/Renewable energy and Supply/Logistics
- d. All of the above

- (a)
- (b)
- (c)
- (d)

2) *1 point*

How does information security helps to maintain business data?

- a. Using a set of strategies which handles tools and policies
- b. Using tools and policies to handle data
- c. Using schemes to handle datasets
- d. None of the above

- (a)
- (b)
- (c)
- (d)

3) *1 point*

What are the key elements of the industrial internet?

- a. Intelligent machines, advanced analytics, and people at work
- b. Intelligent people and analytics
- c. Intelligent machine and analytics
- d. Intelligent people and advanced routers

- (a)

4) *1 point*

How network security protects the network architecture?

- a. A process through which we take physical actions
- b. A process through which we take software actions
- c. A process through which we take physical and software actions
- d. None of the above

- (a)
- (b)
- (c)

5)

*1 point*

How does Apache oversee the maintenance of the Oil & Gas industry?

- a. Production monitoring
- b. Predictive analysis of loss
- c. Both (a) and (b)
- d. None of the above

(a)

(b)

(c)

6) How is augmented maintenance done by Volkswagen? *1 point*

- a. Sensor data collected from automotive
- b. Problem analysis
- c. Problem diagnosis
- d. All of the above

(a)

(b)

(c)

(d)

7) What is the function of electro-pneumatic systems? *1 point*

- a. Precise flow control
- b. Ultra high resolution
- c. Advanced communication
- d. All of the above

(a)

(b)

(c)

(d)

8) What forms the architecture of a PLC? *1 point*

- a. CPU module, power supply module, I/O module
- b. CPU and power supply module
- c. CPU and I/O module
- d. None of the above

(a)

9) What is/are the requirement(s) for industrial standard? *1 point*

- a. Reliable sensing
- b. Low cost sensing and actuation
- c. Both (a) and (b)
- d. None of the above

(a)

(b)

(c)

10)

1 point

What are the benefits of smart manufacturing?

- a. Integration and interconnectivity among devices, equipments, workforce, and supply chain
- b. Interconnectivity among devices, equipments, workforce, and supply chain
- c. Integration among devices, equipments, workforce, and supply chain
- d. None of the above

(a)

11) How do RFID tags assist in firefighting?

1 point

- a. Real-time monitoring and assist in emergency rescue
- b. Continuous monitoring and diagnosis of danger
- c. Slow diagnosis of danger and real-time monitoring
- d. None of the above

(a)

12)

1 point

How does Rolls-Royce improve reliability in aircraft engines?

- a. Predictive maintenance
- b. Prescriptive analytics
- c. Deployment of valuable devices
- d. All of the above

(a)

13) What is/are the functions of a smart sensor?

1 point

- a. Sense multiple parameters
- b. Communicate data
- c. Self-decision making
- d. All of the above

(a)

(b)

(c)

(d)

14)

1 point

Among the following, who drives the talent development in industries?

- a. Data scientists
- b. Next generation engineers
- c. User interface experts
- d. All of the above

(a)

15) How is smart water management done by *Thames Water*? 1 point

- a. Failure detection
- b. Critical condition monitoring
- c. Dynamic response to critical conditions
- d. All of the above

## Week 4 : Assignment 4

Assignment not submitted

Due date: 2021-09-01, 23:59 IST.

- 1) Protection of Internet-connected systems from cyber-attacks is known as --
- (a)
  - (b)
  - (c)
  - (d)

- 2) Trojan horse is a type of --
- (a) Man-in-the-middle attack
  - (b) Malware
  - (c) Firmware
  - (d) Phishing document

- 3) What is the CIA Triad in the cybersecurity requirements?
- (a) Confidentiality, Integrity, Availability
  - (b) Construct, Instruct, Advocate
  - (c) Carrier, Interpreter, Agile
  - (d) Cyber Integral Application

- (a)
- (b)
- (c)
- (d)

- 4) What is the full form of SDCMA?
- (a) Software-Developed Cloud Manufacturing Application
  - (b) Software-Defined Cloud Manufacturing Application
  - (c) Software-Defined Cloud Manufacturing Architecture
  - (d) Software-Defined Cloud Managing Architecture

- (a)
- (b)
- (c)
- (d)

- 5) RFID sensor is used in mining industry for \_\_\_\_\_
- (a) Tracking miners
  - (b) Monitoring mine deformation
  - (c) Detection of poisonous gases
  - (d) All of the above

- (a)
- (b)
- (c)
- (d)

6) Who coined the term – Industrial Internet?

- a. General Electric
- b. Bosch
- c. IBM
- d. Tesla

(a)  
 (b)  
 (c)  
 (d)

7) What is/are the negative effect(s) of the Industrial revolution?

- a. Inefficiency
- b. Harm to the environment
- c. Bad working environment
- d. All of the above

(a)  
 (b)  
 (c)  
 (d)

8) How many key elements are there in the Industrial Internet?

- a. 3
- b. 5
- c. 9
- d. 4

(a)  
 (b)  
 (c)  
 (d)

9) What is/are the advantage(s) of the Industrial Internet??

- a. Fuel savings
- b. Reduction in system inefficiency
- c. Reduction in capital expenditure
- d. All of the above

(a)  
 (b)  
 (c)  
 (d)

10) "Sensor with small memory and standardized physical connection to enable communication with the processor and data network" is the definition of \_\_\_\_\_.

- a. Virtual sensor
- b. Smart sensor
- c. Virtual actuator
- d. None of the above

(a)  
 (b)  
 (c)  
 (d)

11) A smart sensor can sense multiple parameters in a single sensor node. True or false?

- a. True
- b. False

(a)  
 (b)

12) The method adopted to improve the performance of the sensing system by readjusting and removing the error in the measured response of the sensor compared to the actual response is known as --

- a. Sensor calibration
- b. Sensor deployment
- c. Sensor connection
- d. Sensor identification

(a)  
 (b)  
 (c)  
 (d)

13) What is SCADA?

- a. Smart sensor
- b. Industrial control system
- c. Cybersecurity application
- d. Malware

(a)  
 (b)  
 (c)  
 (d)

14) What is WSAN?

- a. Wireless Sensing & Actuation Network
- b. Wireless Sensor & Application Network
- c. Wired Sensing & Actuation Network
- d. Wi-Fi Sensor & Application Network

(a)

(b)

(c)

(d)

15) What are the challenges for industrial processes in Industry 4.0?

- a. Dynamic market conditions
- b. Constrained workforce
- c. Resource utilization
- d. All of the above

(a)

(b)

(c)

(d)

WEEK 4 2022A

## Week 04: Assignment 04

Assignment not submitted

Due date: 2023-02-22, 23:59 IST.

1) Protection of internet-connected systems from cyber-attacks is known as \_\_\_\_\_.

1 point

- (a) Network security
- (b) Internet security
- (c) Web security
- (d) Cybersecurity

2) In which category of countermeasure does an application firewall fall?

1 point

- (a) Hardware
- (b) Software
- (c) Both (a) and (b)
- (d) None of the above

3) State true or false — "Cybersecurity is recognized as a subset of information security".

1 point

- (a) True
- (b) False

4) Which of the following is/are correct regarding network security?

1 point

- (a) It provides protection from unofficial access, improper use, fault, deletion, demolition
- (b) It is an analytical action which categorizes information benefits.
- (c) It ensures the protection of applications from outer threats.
- (d) All of the above

5) What is a malware?

1 point

- (a) A computer program which is used to disturb the computer user, such as computer viruses, spyware etc.
- (b) A computer program which breaks security policy to get critical information, which is typically secured.
- (c) A computer program which provides a facility to the attacker in which the attacker locks the user's computer files by using an encryption and demand some money to unlock them.
- (d) None of the above

- 6) What is SDCMA stand for? 1 point
- (a) Software-Defined Cloud Management Architecture
  - (b) Software-Developed Cloud Manufacturing Architecture
  - (c) Software-Developed Cloud Management Architecture
  - (d) Software-Defined Cloud Manufacturing Architecture
- 7) What are the three key differences between IIoT and Automation? 1 point
- (a) Connectivity, advanced analytics, and IT tools and methodologies
  - (b) Ubiquitous sensing, advanced analytics, and IT tools and methodologies
  - (c) Advance sensing, connectivity, and IT tools and methodologies
  - (d) Ubiquitous sensing, connectivity, and advanced analytics
- 8) What is the role of optimum scheduling in transportation & logistics? 1 point
- (a) It provides good customer services by reducing cancellation and delays.
  - (b) It provides better safety to both the on board passengers and machines.
  - (c) It reduces maintenance expenses.
  - (d) It enhances end-to-end automation.
- 9) Which one of the following digital industrial companies coined the term, Industrial Internet? 1 point
- (a) Siemens Global
  - (b) General Electric
  - (c) Accenture
  - (d) Digital Industry
- 10) The \_\_\_\_\_ started with the invention of internal combustion engines and electricity 1 point
- (a) First Stage of the Industrial Revolution
  - (b) Second Stage of the Industrial Revolution
  - (c) Third Stage of the Industrial Revolution
  - (d) Fourth Stage of the Industrial Revolution
- 11) Why is outage a huge problem in power industries? 1 point
- (a) Because the service provided by any power industry is very large.
  - (b) Because power lines and other equipment are not mobile.
  - (c) Because replacing a broken equipment is hard.
  - (d) Because locating a broken power line or equipment is not an easy task.
- 12) The emergence of \_\_\_\_\_ system will replace the isolated systems 1 point
- (a) Edge-based
  - (b) Cloud-based
  - (c) Real-time
  - (d) All of the above
- 13) Which of the following is a sensors technology manufacturer? 1 point
- (a) NVIDIA
  - (b) General Electric
  - (c) Intel
  - (d) Honeywell
- 14) What are the three main modules in PLC architecture? 1 point
- (a) CPU, power supply, and I/O
  - (b) Sensors, processor, and actuation
  - (c) Sensors, CPU, and power supply
  - (d) Sensors, CPU, and network
- 15) Which of the following is not an actuators technology manufacturer? 1 point
- (a) MOOG
  - (b) SPAT
  - (c) ADAFRUIT
  - (d) TAIPEI

## Week 4 : Assignment 4

Assignment not submitted

Due date: 2022-08-24, 23:59 IST.

1) What is Cybersecurity?

1 point

- (a) Protection of internet-connected systems from cyber-attacks
- (b) Protection of factories systems from the government is known as cybersecurity.
- (c) Protection of laborers in the work environment is known as cybersecurity.
- (d) None of the above

a  
 b  
 c  
 d



2) Which of the following is not a component of cybersecurity?

1 point

- (a) Application Security
- (b) Network Security
- (c) Both a and b
- (d) None of the above

a  
 b  
 c  
 d

3) Trojan Horse is a type of \_\_\_\_\_

1 point

- (a) Ransom-ware
- (b) Hardware
- (c) Malware
- (d) All of the above

a  
 b  
 c  
 d

4) What is the aim of phishing?

1 point

- (a) It enables industrial intelligent actions to use advanced data analytic tools for gettable business results
- (b) To get critical data, such as login information or credit card information.
- (c) Both a and b
- (d) None of the above

a  
 b  
 c  
 d

- 5) "Cyber-attack recognition systems deal with an extensive volume of big dimensional data along with uniform advancing attack features." True or false? 1 point
- (a) True  
(b) False
- a  
 b
- 6) what is/are the benefit(s) of IIoT? 1 point
- (a) Improves productivity  
(b) Enables remote diagnosis  
(c) Reduces operation time  
(d) All of the above
- a  
 b  
 c  
 d
- 7) What is SDCMA? 1 point
- (a) Software-Defined Cyber Manufacturing Architecture  
(b) Sensor-Defined Cyber Management Architecture  
(c) Sensor-Defined Cloud Management Architecture  
(d) Software-Defined Cloud Manufacturing Architecture
- a  
 b  
 c  
 d
- 8) Which of the following is not a challenge in deployment of IIoT? 1 point
- (a) Cyber security  
(b) Legacy installations  
(c) Lack of skills  
(d) Advanced IT technologies
- a  
 b  
 c  
 d
- 9) What are the key elements in the Industrial Internet? 1 point
- (a) Intelligent machines, Advanced analytics, People at work  
(b) Intelligent people, Advanced machines, Internet at work  
(c) Sensors, Actuators, communication protocols  
(d) None of the above
- a  
 b  
 c  
 d

10) Industrial internet can benefit the commercial aviation industry by \_\_\_\_\_. 1 point

- (a) Improving airlines operations
- (b) Improving asset management
- (c) Both a and b
- (d) None of the above

a  
 b  
 c  
 d

11) What does “self-decision making” mean in terms of smart sensor function? 1 point

- (a) Software Control and Data Acquisition
- (b) Communicating vital information like measured, calibration and compensation data to the Central control unit
- (c) Actuator
- (d) Self-monitor its operation and changes in the ambience by taking proper decision for required compensation by itself or by alerting human for required action

a  
 b  
 c  
 d

12) What is SCADA? 1 point

- (a) Software Control and Data Acquisition
- (b) Supervisory Communication and Data Acquisition
- (c) Supervisory Control and Data Acquisition
- (d) Software for Communication and Data Acquisition

a  
 b  
 c  
 d

13) \_\_\_\_\_ combine the advantages of Electric and Pneumatic actuators. 1 point

- (a) Cyber security systems
- (b) Electro-hydrostatic actuation systems
- (c) Both a and b
- (d) Electro-pneumatic systems

a  
 b  
 c  
 d

- 14) What is/are the benefit(s) of operation efficiency in Industrial Process 4.0? 1 point
- (a) Improved resource utilization  
(b) Increased productivity  
(c) Cost reduction  
(d) All of the above
- a  
 b  
 c  
 d
- 15) Which of the following is/are not part of the operational domain of Industrial Process? 1 point
- (a) Management  
(b) Deployment  
(c) Both a and b  
(d) Transportation
- a  
 b  
 c  
 d

## WEEK 4 2023A

### Week 04: Assignment 04

Assignment not submitted

Due date: 2023-02-22, 23:59 IST.

- 1) Protection of internet-connected systems from cyber-attacks is known as \_\_\_\_\_. 1 point
- (a) Network security  
 (b) Internet security  
 (c) Web security  
 (d) Cybersecurity
- 2) In which category of countermeasure does an application firewall fall? 1 point
- (a) Hardware  
 (b) Software  
 (c) Both (a) and (b)  
 (d) None of the above
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- (a) True  
 (b) False
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- (a) It provides protection from unofficial access, improper use, fault, deletion, demolition  
 (b) It is an analytical action which categorizes information benefits.  
 (c) It ensures the protection of applications from outer threats.  
 (d) All of the above
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 (b) A computer program which breaks security policy to get critical information, which is typically secured.  
 (c) A computer program which provides a facility to the attacker in which the attacker locks the user's computer files by using an encryption and demand some money to unlock them.  
 (d) None of the above

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(b) Software-Developed Cloud Manufacturing Architecture  
(c) Software-Developed Cloud Management Architecture  
**(d) Software-Defined Cloud Manufacturing Architecture**
- 7) What are the three key differences between IIoT and Automation? 1 point
- (a) Connectivity, advanced analytics, and IT tools and methodologies  
**(b) Ubiquitous sensing, advanced analytics, and IT tools and methodologies**  
(c) Advance sensing, connectivity, and IT tools and methodologies  
(d) Ubiquitous sensing, connectivity, and advanced analytics
- 8) What is the role of optimum scheduling in transportation & logistics? 1 point
- (a) It provides good customer services by reducing cancellation and delays.**  
(b) It provides better safety to both the on board passengers and machines.  
(c) It reduces maintenance expenses.  
(d) It enhances end-to-end automation.
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**(b) General Electric**  
(c) Accenture  
(d) Digital Industry
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- (a) First Stage of the Industrial Revolution  
**(b) Second Stage of the Industrial Revolution**  
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- 12) The emergence of \_\_\_\_\_ system will replace the isolated systems 1 point
- (a) Edge-based  
**(b) Cloud-based**  
(c) Real-time  
(d) All of the above
- 13) Which of the following is a sensors technology manufacturer? 1 point
- (a) NVidia  
(b) General Electric  
(c) Intel  
**(d) Honeywell**
- 14) What are the three main modules in PLC architecture? 1 point
- (a) CPU, power supply, and I/O**  
(b) Sensors, processor, and actuation  
(c) Sensors, CPU, and power supply  
(d) Sensors, CPU, and network
- 15) Which of the following is not an actuators technology manufacturer? 1 point
- (a) MOOG  
(b) SPAT  
**(c) ADAFRUIT**  
(d) ZABER

WEEK 4 2023B

## Week 4 : Assignment 4

Your last recorded submission was on 2023-08-17, 22:20 IST

Due date: 2023-08-23, 23:59 IST.

- 1) Cybersecurity involves the security of 1 point
- a. Hardware and software
  - b. Software and data
  - c. Hardware, software, and data
  - d. Hardware, software, data and processes
- a.  
 b.  
 c.  
 d.
- 2) \_\_\_\_\_ security represents the set of policies that monitor and prevent unauthorized access, safeguard the data and network from network traffic. Fill in the blank. 1 point
- a. Information
  - b. Hardware
  - c. Software
  - d. Network
- a.  
 b.  
 c.  
 d.
- 3) Locky is an example of which type of cybersecurity threat? 1 point
- a. Ransomware
  - b. Malware
  - c. Phishing
  - d. All of the above
- a.  
 b.  
 c.  
 d.
- 4) What does C represent in the CIA-Triad in cybersecurity? 1 point
- a. Cyber-physical
  - b. Centralized
  - c. Confidentiality
  - d. Critical
- a.  
 b.  
 c.  
 d.

5) What is ubiquitous sensing in IIoT? 1 point

- a. In IIoT, sensors and actuators are used to control critical elements.
- b. In IIoT, sensors and actuators are used almost everywhere to control, enhance and optimize various functions.
- c. In IIoT, advanced analytics helps to enhance the working condition, increase machine life and optimize operational efficiency.
- d. None of the above

a.

b.

c.

d.

6) Which of the following is a data integration challenge in deploying IIoT? 1 point

- a. Understanding the generated data for analysis and application in business.
- b. Storing the data
- c. Lack of skills
- d. Cybersecurity

a.

b.

c.

d.

7) Commercialization and the mass production of steam engines marked the beginning of the \_\_\_\_\_ stage of the Industrial revolution. Fill in the blank. 1 point

- a. Fourth
- b. Third
- c. Second
- d. First

a.

b.

c.

d.

8) What were the negative effects of Industrial revolution? 1 point

- a. Harm to environment by waste products
- b. Inefficient
- c. Bad working environment
- d. All of the above

a.

b.

c.

d.

9) How many key elements are there in the Industrial internet? 1 point

- a. 4
- b. 3
- c. 5
- d. 2

a.

b.

c.

d.

10) How does sensing contributes to the industry? 1 point

- a. Increase downtime
- b. Increase cost
- c. Higher degree of automation
- d. Safety hazards

a.  
 b.  
 c.  
 d.

11) A smart sensor can perform multiple sensing, unlike the traditional sensors. True or false? 1 point

- a. True
- b. False

a.  
 b.

12) What is self-decision making in a smart sensor? 1 point

- a. It can self-monitor its operation and changes in the ambience by taking proper decision by itself.
- b. Reduce the cost by reduced downtime
- c. Communicate data
- d. Enable multiple parameter sensing

a.  
 b.  
 c.  
 d.

13) What is the full form of SCADA? 1 point

- a. Supervisory Confidential and Data Acquisition
- b. Supervisory Control and Data Acquisition
- c. Smart Control and Data Acquisition
- d. Smart Controlled and Direct Acquisition

a.  
 b.  
 c.  
 d.



- 14) What does the Cognitive layer in the 5C architecture for Cyber-physical Systems represents?
- a. System for supervised control: Self-configure, Self-Optimize, Self-Adjust
  - b. Sensor records machine health data: data to information interpretation
  - c. System for optimized decision: Human-readable interpretation & data visualization
  - d. All of the above

a.  
 b.  
 c.  
 d.

1 point

- 15) How can smart factory be beneficial in inventory tracking?
- a. Global inter-connectivity of smart factory facilitates real-time updates of inventory
  - b. Ease of process re-adjustment facility
  - c. End-to-end production line management with sensors
  - d. None of the above

a.  
 b.  
 c.  
 d.

1 point

## WEEK 4 2024A

### Week 4 : Assignment 4

Assignment not submitted

Due date: 2024-02-21, 23:59 IST.

- 1) What does Cybersecurity protect?

- a. Only physical infrastructure
- b. Only software
- c. Hardware, software, and data
- d. Only company policies

a.  
 b.  
 c. ↗  
 d.



1 point

- 2) What is the focus of Network Security?

- a. Only securing physical buildings
- b. Protecting network architecture from unauthorized access and improper use
- c. Protecting only the company CEO's information
- d. Solely focused on securing paper documents

a.  
 b. ↗  
 c.  
 d.



3) What does the CIA Triad in Cybersecurity stand for? 1 point

- a. Confidentiality, Integrity, Availability
- b. Costing, Integrity, Assets
- c. Company, Internet, Availability
- d. Communication, Information, Assessment

a.  
 b.  
 c.  
 d.



4) What are the key differences between IIoT and traditional Automation? 1 point

- a. No significant differences
- b. Ubiquitous sensing, advanced analytics, IT tools, and methodologies
- c. Only in terms of cost
- d. Limited to the type of machinery used

a.  
 b.  
 c.  
 d.



5) What are the benefits of deploying sensors and actuators in IIoT? 1 point

- a. Limited to academic purposes
- b. To sell more software
- c. To control, enhance, and optimize various functions
- d. To reduce operational efficiency

a.  
 b.  
 c.  
 d.



6) How does IIoT benefit the mining industry? 1 point

- a. By relaxing safety standards
- b. Increasing disaster risks
- c. Early disaster warning
- d. Ignoring carbon footprint metrics

a.  
 b.  
 c.  
 d.



7) What is the Third Wave in GE's industrial level innovation? 1 point

- a. The Industrial Intranet
- b. The Digital Revolution
- c. The Industrial Revolution
- d. The Industrial Internet

a.  
 b.  
 c.  
 d.



8) Scarcity of non-renewable sources of energy pose a significant challenge with respect to energy consumption for the future smart industries and industrial internet? 1 point

- a. True
- b. False

a.  
 b.

9) What was the negative effect of the Industrial Revolution? 1 point

- a. Increased life expectancy
- b. Environmental pollution
- c. Rise in literacy
- d. Technological advancement

a.  
 b.  
 c.  
 d. 

10) Which of the following is not one of the three key elements of the Industrial Internet? 1 point

- a. Intelligent machines
- b. Advanced analytics
- c. People at work
- d. Social Networking

a.  
 b.  
 c.  
 d. 

11) How is a smart sensor defined according to IEEE 1451 standard? 1 point

- a. Sensor with large storage capacity
- b. Sensor with standardized physical connection for communication
- c. Sensor that operates independently
- d. Sensor without the need for a power supply

a.  
 b.  
 c.  
 d. 

12) What is the purpose of the MRAA library in Intel IoT devices? 1 point

- a. High-level gaming interface
- b. Large data analysis
- c. Cloud storage management
- d. Low-level communication in GNU/Linux platform

a.  
 b.  
 c.  
 d. 

13) What is a key aspect of the design philosophy for IIoT in industrial processes? 1 point

- a. Facilitating communication between heterogeneous objects
- b. Prioritizing manual control over automated systems
- c. Limiting data interoperability
- d. Reducing smart object autonomy

a.  
 b.  
 c.  
 d.



14) What is a feature of the Autonomous Pull Economy in Industrial Process 4.0? 1 point

- a. High waste generation
- b. Manual data processing
- c. Limited resource optimization
- d. End-to-end automation facility

a.  
 b.  
 c.  
 d.



15) Considering the future architecture of the smart Industrial plant, which among the following layers is responsible for autonomous decision making , machine learning and decision support system? 1 point

- a. Connection Layer
- b. Conversion Layer
- c. Cyber Layer
- d. Cognition Layer

a.  
 b.  
 c.  
 d.

