

Assignment 10

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

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

1)

Which of the following connectivity is used in Pulse oximetry?

1 point

- a. Zigbee
- b. Bluetooth
- c. Wifi
- d. All of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

2)

IoT based contact lenses are used for:

1 point

- a. Monitoring ECG
- b. Monitoring heart rate
- c. Monitoring glucose level
- d. None of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

3)

Which of the following is the first step of IIOT healthcare architecture?

1 point

- a. Sending
- b. Sensing
- c. Processing
- d. Monitoring

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

4)

IIoT makes the power plant fully automated using

1 point

- a. Smart grid
- b. Transformer
- c. None of the above
- d. All of the above

5)

IIoT based devices for power plant industry are standardized with

- a. TCP/IP protocol
- b. IPV6 protocol
- c. All of the above
- d. None of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

1 point

6)

Zigbee is used in which network

- a. Home Area Network
- b. Neighborhood Area Network
- c. Field Area Network
- d. None of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

1 point

7)

Factory of the Future is a digital manufacturing initiative launched by

- a. Kuka.
- b. Airbus.
- c. DeWalt.
- d. ABB.

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

1 point

8)

Construction Internet of Things initiative launched by DeWalt

- a. monitors small-scale sites only.
- b. uses IoT platform and Wi-Fi mesh network.
- c. produces 800 cars per day.
- a. All of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

1 point

9)

YuMi by ABB is

- a. A collaborative robot.
- b. An Augmented Reality (AR) app.
- c. A driverless truck.
- d. None of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

1 point

10)

Which of the following is not a security goal?

- a. Confidentiality
- b. Heterogeneity
- c. Integrity
- d. Availability

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

1 point

11)

Resilience in a trustworthy environment means:

- a. Ability of the system to function correctly on dynamic adversarial conditions
- b. Safe operations of device and people without any risks and injury
- c. Protecting the system from Unauthorized access, modification and destruction
- d. Restriction on data access - who can access and by whom it can be disclosed

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

1 point

12)

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

- a. Authentication of devices
- b. Security supports integrating IT and OT components
- c. Privacy preserving protocols
- d. Authentication methods

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

1 point

13)

HACCP stands for

1 point

- a. Heat Analyzer and Critical Control Points.
- b. Hazard Analysis and Critical Control Points.
- c. Heat Analysis and Common Control Points.
- d. Hazard Analyzer and Common Control Points.

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

14)

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

1 point

- a. Weather
- b. Presence of insects
- c. Crop maturity
- d. All of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

d.

15)

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

1 point

- a. Drone-assisted field monitoring
- b. GPS tracking
- c. All of the above
- d. None of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

WEEK 10 2021A

WEEK 10 2021B

Week 10 : Assignment 10

Assignment not submitted

Due date: 2021-10-06, 23:59 IST.

1) Which of the following is not a function of the control plane in Software-defined WSN platform for Industry 4.0?

- a. Manage and Optimization
- b. Sensor Monitoring
- c. Fault Tolerance
- d. Data Acquisition Service

- ☐ a.
- ☐ b.
- ☒ c.
- ☐ d.

2) Software-defined 6TiSCH protocol stack is integrated with _____ stack.

- a. Contiki IEEE 802.15.4-2015
- b. Contiki IEEE 802.15.6-2015
- c. Contiki IEEE 802.15.3-2015
- d. None of the above

- ☒ a.
- ☐ b.
- ☐ c.
- ☐ d.

3) In a software-defined control plane for smart grid, APIs are present in _____.

- a. Distribution side
- b. Generation side
- c. Both (a) and (b)
- d. None of the above

- ☐ a.
- ☐ b.
- ☒ c.
- ☐ d.

4) Which of the following statements is true?

- a. Current security architectures are mainly IT-centric
- b. Current security architectures are mainly OT-centric
- c. Traditional security mechanisms are designed for OT integrated with IT components
- d. IT systems only deploy legacy physical security protections

- ☒ a.
- ☐ b.
- ☐ c.
- ☐ d.

5) What does E stand for in STRIDE Threat Model?

- a. Evaluation of privacy
- b. Elevation of privacy
- c. Evaluation of privilege
- d. Elevation of privilege

- ☐ a.
- ☐ b.
- ☐ c.
- ☒ d.

6) Which of the following statements is true about IIoT security standards?

- a. These help in achieving a common level of security in industries
- b. These help to offer services at different levels of security
- c. Both (a) and (b)
- d. None of the above

- ☒ a.
- ☐ b.
- ☐ c.
- ☐ d.

7) The most sensitive part of IIoT security is _____.

- a. Managers
- b. Workers
- c. Products
- d. Data

- ☐ a.
- ☐ b.
- ☐ c.
- ☒ d.

8) In healthcare IoT systems, cryptography is used in securing communication between -

- a. Cloud and fog devices
- b. Fog devices
- c. Fog and embedded healthcare devices
- d. All of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☒ d.

9) DeWalt launched the _____ initiative for monitoring sites as large as a NFL football stadium.

- a. Monitoring IoT
- b. Toolbox IoT
- c. Construction IoT
- d. Component IoT

- ☐ a.
- ☐ b.
- ☒ c.
- ☐ d.

10) The Zero Downtime System developed by Fanuc uses _____ to reduce downtime.

- a. Predictive Maintenance
- b. Predictive Control
- c. Corrective Maintenance
- d. Corrective Control

- ☒ a.
- ☐ b.
- ☐ c.
- ☐ d.

11) Magna Steyr's smart packaging includes _____ packaging.

- a. Wifi-enabled
- b. Bluetooth-enabled
- c. Zigbee-enabled
- d. None of the above

- ☐ a.
- ☒ b.
- ☐ c.
- ☐ d.

12) Intellicup is a smart _____ system.

- a. Utensil manufacturing
- b. Farming
- c. Beverage vending
- d. Cooking

- ☐ a.
- ☐ b.
- ☒ c.
- ☐ d.

13)

Which of the following products (manufactured by GMA) provides ingredient details of food product to consumers?

- a. SmartLabel
- b. FarmShelf
- c. Eskesso
- d. CityCrop

☒ a.

☐ b.

☐ c.

☐ d.

14)

BioRanger, which detects the presence of pathogens in food, consists of _____

- a. An Android app
- b. A small handheld device
- c. Both (a) and (b)
- d. None of the above

☐ a.

☐ b.

☒ c.

☐ d.

15)

How does Flavor Matrix work?

- a. It uses a wifi-enabled cooking device which regulates cooking temperature
- b. It enhances flavor of dishes using machine learning and data analysis and provides user-specific food and beverage pairing
- c. It uses QR code to provide food related information
- d. None of the above

☐ a.

☒ b.

☐ c.

☐ d.

1) SD-6TiSCH protocol stack _____.

- ☐ a. Minimizes controller overhead in μ SDN
- ☐ b. Integrated with Contiki IEEE 802.15.4-2015 stack
- ☒ c. Both (a) and (b)

2) What does SCADA stand for?

- ☐ a. Sensory Control and Data Acquisition
- ☐ b. Supervisory Central and Data Acquisition
- ☒ c. Supervisory Control and Data Acquisition

3) What are the three basic goals of IIoT security?

- ☐ a. Adversity, integrity, central security
- ☐ b. Adversity, integrity, confidentiality
- ☐ c. Availability, instantaneous, confidentiality
- ☒ d. Availability, integrity, confidentiality

4) "Third-party services with trust-boundaries are required in secured cloud compiled IIoT" — state true or false.

- ☐ a. False
- ☒ b. True

5) Which of the following is/are considered to be the attack vector(s) observed in the network layer of IIoT?

- ☒ a. Misrouting

6) Which of the following is/are referred to the class(es) of attackers?

- ☐ a. Hardware vendors
☐ b. Outsourced firms
☒ c. Both (a) and (b)

6) Which of the following is/are referred to the class(es) of attackers?

- ☐ a. Hardware vendors
☐ b. Outsourced firms
☒ c. Both (a) and (b)

7) Which of the following is/are not observed in the trust flow of a typical IIoT system?

- ☐ a. System owner
☐ b. System builders
☒ c. Customer

8) Standard cryptographic protocols in fog devices are used for

- ☐ a. Providing authentication among fog devices
☐ b. Providing authentication between fog devices and the cloud
☒ c. Both (a) and (b)

9) What are the different communication protection techniques used in a secured IIoT system?

- ☐ a. Security gateways
- ☐ b. Network firewalls
- ☐ c. Network access control
- ☒ d. All of the above

10) "The infrastructure of smart factories involves machinery and equipment that improve processes through self-optimization and automation" — state true or false.

- ☒ a. True

11) Magna-Steyr uses smart factory applications for _____.

- ☐ a. Asset tracking
- ☐ b. Smart packaging
- ☒ c. Both (a) and (b)

12) What is the Caterpillar?

- ☒ a. A machine learning technique for predictive analytics and maintenance

13) How many layers are observed in the IoT platform offered by Hitachi-Lumada?

- ☐ a. 4
- ☒ b. 5

14) What is Esskeso?

- ☒ a. Smart cooking solution

15) Which of the following IIoT solutions provides the services of smart indoor farming?

- ☐ a. Flavor Matrix
- ☐ b. IntelliCup
- ☐ c. Spinn Inc.
- ☒ d. FarmShelf

- 1) Which of the following is not performed on the control plan of SDIIoT Architecture – Public Networks?
- a. Network monitoring,
 - b. Management and optimization
 - c. Data transmission
 - d. Fault tolerance

☐ a
☐ b
☐ c
☒ d

- 2) What are the two categories of data stream?
- a. Ordinary data stream and Emergent data stream
 - b. Noised data stream and Emergent data stream
 - c. Ordinary data stream and Noised data stream
 - d. None of the above

☒ a

- 3) What is the long form of DERMS?
- a. Decentralized entropy resource management system
 - b. Decentralized energy resource management system
 - c. Distributed entropy resource management system
 - d. Distributed energy resource management system

☐ a
☐ b
☐ c
☒ d

- 4) What is data confidentiality?
- a. Data must not be changed either accidentally or maliciously while transmitted; If changed, then it must be detected
 - b. Data make sense only for intended users and garbage to all others
 - c. Authorized users must get access to data when needed irrespective of any threats and failure
 - d. It can mean any of the above three statements

☐ a
☒ b

- 5) In the STRIDE threat model, what is "I" stands for?
- a. Interruption of network
 - b. Interruption of service
 - c. Information disclosure
 - d. Information retrieval

☐ a
☐ b
☒ c

- 6) Which of the following is an application layer IIoT attack vector?
- a. Impersonation attack
 - b. SQL injection
 - c. Resource exemption
 - d. Traffic flooding

☐ a
☒ b

- 7) What is/are the challenge in end device protection?
- a. Resource constrained
 - b. Many devices are mobile
 - c. No support for standard cryptographic protocols
 - d. All the above

☐ a
☐ b
☐ c
☒ d

8) Which of the following is not included in cloud security?

- a. Data privacy
- b. Energy efficiency management
- c. Identity management
- d. Access control

☐ a

☒ b

9) What are the three components of data protection?

- a. Confidentiality, Integrity, and Availability
- b. Confidentiality, Integrity, and Authenticity
- c. Confidentiality, Authority, and Availability
- d. Authenticity, Authority, and Availability

☒ a

10) What are the advantages of smart factories?

- a. Increase in efficiency
- b. Reduction in overall production cost
- c. Enhanced prediction of errors
- d. All of the above

☐ a

☐ b

☐ c

☒ d

- 11) Kuka – IoT Enabled Factory is _____.
- a. A German robotics maker
 - b. A German smart wearable maker
 - c. A Russian robotics maker
 - d. None of the above

☒ a

- 12) Name a smart factory which produce honing machine?
- a. DeWalt – Construction Internet of Things
 - b. Gehring – Connected Manufacturing
 - c. Caterpillar
 - d. ABB - YuMi

☐ a

☒ b

- 13) What are the impacts of IoT in food Industries?
- a. Less wastage
 - b. Food safety
 - c. Transparency of the supply chain
 - d. All the above

☐ a

☐ b

☐ c

☒ d

14) Name a service offers by Intellicup – Smart Cups.

- a. Detects the presence of microbial disease in food
- b. Provides intelligent indoor garden to grow fruits, herbs, vegetables, greens, and edible flowers
- c. Smart cooking
- d. Smart beverage vending

- ☐ a
- ☐ b
- ☐ c
- ☒ d

15) Which of the following food industry produces smart coffee brewing machines?

- a. Spinn Inc
- b. FarmSelf
- c. Culinary Science Industries
- d. Eskesso

- ☒ a

1) What does the abbreviation, TSCH, stands for?

- ☒ (a) Time slotted channel hopping
- ☐ (b) Time scheduling channel hopping
- ☐ (c) Time scheduled communication hopping
- ☐ (d) None of the above

2) Which type of communication is used in time slotted channel hopping?

- ☒ (a) Deterministic communication
- ☐ (b) Non-deterministic communication
- ☐ (c) Predictive communication
- ☐ (d) None of the above

3) What is/are the objective (s) satisfied in the IETF 6TiSCH?

- ☐ (a) Unreliable link – low power and lossy network
- ☐ (b) Control overhead due to message exchange between SDN controller and devices
- ☐ (c) Increased jitter
- ☒ (d) All of the above

4) In which layer, Software-Defined 6TiSCH supports the slicing mechanism?

- ☒ (a) Layer 2

5) μ SDN incorporates features for minimizing _____ overhead.

- ☐ (a) Data
- ☒ (b) Controller
- ☐ (c) Transmission
- ☐ (d) All of the above

6) SD-Edge IIoT architecture comprises of _____.

- ☐ (a) Cluster head
- ☐ (b) Industrial cloud
- ☐ (c) Edge network
- ☒ (d) All of the above

7) What is/are the basic step(s) of the IIoT security risk management?

- ☐ (a) Avoiding risks
- ☐ (b) Mitigating risks
- ☐ (c) Outsourcing, accepting, and balancing residual risks
- ☒ (d) All of the above

8) Select the correct cyber attacker class(es) from the following options.

- ☐ (a) Outsourced firms
- ☐ (b) Internal unethical employees
- ☐ (c) Organized crime groups
- ☒ (d) All of the above

9) Which of the following attack vector(s) is/are applicable in the application layer?

- ☐ (a) Data spoofing
- ☐ (b) SQL injection
- ☒ (c) All of the options
- ☐ (d) Reversal attack

10) The different type(s) of IIoT attack vectors in the physical layer is/are _____.

- ☐ (a) DoS or DDoS
- ☐ (b) Replay attack
- ☐ (c) Reversal attack
- ☒ (d) None of the above

11) The different type(s) of IIoT attack vectors in the network layer is/are _____.

- ☐ (a) Data spoofing
- ☐ (b) Reversal attack
- ☒ (c) None of the options
- ☐ (d) Impersonation attack

12) What is/are the benefit(s) of making factory smart?

- ☐ (a) Reduced changeover time
- ☐ (b) Reduced production time
- ☐ (c) Flexibility and easy management
- ☒ (d) All of the above

13) Kuka is a _____.

- ☒ (a) A German robotics maker company
- ☐ (b) A German toy maker company
- ☐ (c) A German mining company
- ☐ (d) None of the above

14) What is/are the benefit(s) of maintaining transparency in the supply chain?

- ☐ (a) Availability of real-time data about products
- ☐ (b) Easier to find inefficiencies
- ☐ (c) Easier to meet food safety regulations
- ☒ (d) All of the above

15) What is/are the major challenge(s) associated with the healthcare?

- ☐ (a) Avoidable medical errors
- ☐ (b) Increasing age of the population
- ☐ (c) Costly hospitals and clinics
- ☒ (d) All of the above

1)

Which of the following is/are available within the public network in an SDIIoT architecture?

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

- ☐ a.
- ☐ b.
- ☒ c.

2)

1 point

State true or false — In SDIIoT architecture, the industrial cloud focuses on the data center network.

- a. True
- b. False

- ☒ a.

3)

1 point

Which of the following is addressed by a trustworthy IIoT?

- a. Security
- b. Safety
- c. Resilience
- d. All of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☒ d.

4)

1 point

Fill in the blanks. The application layer of IIoT attack vectors includes _____.

- a. Traffic Flooding
- b. Misrouting
- c. Data spoofing
- d. Packet sniffing

- ☐ a.
- ☐ b.
- ☒ c.
- ☐ d.

5) Which of the following is not a part of IIoT attack vectors in the physical layer?

1 point

- a. Impersonation attack
- b. Man-in-the-middle attack
- c. Jamming attack
- d. Device tampering

☐ a.
☒ b.

6) Which of the following risk(s) is/are involved in IIoT security risk management?

1 point

- a. Avoiding risk
- b. Mitigating risk
- c. Outsourcing risk
- d. All of the above

☐ a.
☐ b.
☐ c.
☒ d.

7)

1 point

State true or false — The data protection of IIoT security does not address confidentiality.

- a. True
- b. False

☐ a.
☒ b.

8) The building blocks of IIoT security include which of the following?

1 point

- a. Cloud Security
- b. Fog device protections
- c. Data Protection
- d. All of the above

☐ a.
☐ b.
☐ c.
☒ d.

9)

1 point

Fill in the blanks. Security standards for IIoT should include requirements of _____ and _____.

- a. International technology, Optional technology
- b. Information technology, Operational technology
- c. Intense technology, Operative technology
- d. None of the above

☐ a.

☒ b.

10) Which of the following represents the benefits of a smart factory?

1 point

- a. Unavailability of the real-time data
- b. Unbalanced workload
- c. Provisioning data analysis and quality control
- d. Extended production time

☐ a.

☐ b.

☒ c.

11)

1 point

Match the following.

Features of Smart Factory	Description
1. Connected	i. Minimum manual intervention
2. Transparent	ii. Continuous real-time data
3. Agile	iii. Live metrics for quick decision
4. Optimized	iv. Flexibility and adaptability

- a. 1-i, 2-ii, 3-iii, 4-iv
- b. 1-ii, 2-iii, 3-iv, 4-i
- c. 1-iii, 2-iv, 3-i, 4-ii
- d. 1-iv, 2-i, 3-ii, 4-iii

☐ a.

☒ b.

12) Which of the following is false about Fanuc – Zero Downtime System?

1 point

- a. Is a robot maker
- b. Uses predictive maintenance for reducing downtime
- c. Does not predict component failure
- d. Performs cloud-based analytics with the help of in-built sensors

- ☐ a.
- ☐ b.
- ☒ c.

13) State true or false. CityCrop renders intelligent indoor gardens for growing fruits, herbs, vegetables, greens, and edible flowers.

1 point

- a. True
- b. False

- ☒ a.

14) Which of the following does not represent the characteristics of a smart factory?

1 point

- a. Connected environment
- b. Improper utilization of resources
- c. Dynamic decision making
- d. Transparency of process status

- ☐ a.
- ☒ b.

15)

1 point

State true or false - As different persons and devices are associated with healthcare IoT systems, the risk of data tampering is high.

- a. True
- b. False

f

WEEK 10 2024A