1. What is the full form of CPS?
    a. Central-Physical System
    b. Cyber-Physical System
    c. Cyber-Property System
    d. Central-Private System

Answer: b

Justification: Refer to slides 1-5 of lecture 1, week 3.

2. Select the statement(s) that best describes a CPS.
    a. A CPS interacts with the physical world through sensors and actuators.
    b. A CPS is a network of physical and computational components.
    c. It is a set of multiple networked embedded systems.
    d. All of the above

Answer: d

Justification: Refer to slides 3-5 of lecture 1, week 3.

3. What does conversion refer to in context of CPS architecture for IIoT?
    a. Conversion of CPS into individual components.
    b. Conversion of machine data to meaningful information.
    c. Conversion of present data into future data prediction.
    d. Conversion of analog signal to digital signal.

Answer: b

Justification: Refer to slides 14-15 of lecture 1, week 3.

4. Select the statement which describes one of the limitations of smart sensors.
    a. Sensor data aggregation not possible.
    b. Cannot connect with an actuator.
    c. Cannot connect to a network
    d. All of the above

Answer: a

Justification: Refer to slides 21-23, lecture 1, week 3.

5. _____sensors are capable of processing sensed data and performing pre-defined functions by processing data. Fill in the blank with the appropriate option.
    a. Smart
    b. Intelligent
    c. Digital
    d. Scalar

Answer: b

Justification: Refer to slide 23, lecture 2, week 3.

6. Which of the following allows application-specific customization of sensor nodes?
    a. Smart sensors
    b. Intelligent sensors
    c. ADC
    d. None of the above

Answer: b

Justification: Refer to slides 24-26, lecture 1, week 3.

7. _____ allows employees to share information and solve business problems. Fill in the blank.
    a. Sharing platform
    b. Business platform
    c. E-Commerce platform
    d. Collaboration platform

Answer: d

Justification: Refer to slide 2, lecture 2, week 3

8. Coordination is one of the four keys that enable collaboration productivity. How can one initiate coordination?
    a. Provide authority to decision-makers in a decentralized system.
    b. Format data model to store every data element exactly once.
    c. Bridge the gap between the virtual and physical world.
    d. All of the above

Answer: a

Justification: Refer to slides 5-8, lecture 2, week 3

9. How many components are there in PLM that are used to handle a product across its lifetime?
    a. 3
    b. 5
    c. 7
    d. 9

Answer: d

Justification: Refer to slide 17, lecture 2, week 3

10. Which of the following statements is true about Augmented reality?
    a. It is a mixture of interactive hardware and software-based artificial environment.
    b. It creates and enhances an imaginary reality.
    c. It amplifies the present perception of reality.
    d. All of the above

Answer: c

Justification: Refer to slides 4-15, lecture 3, week 3

11. What is projection-based AR?
    a. It gives outcomes by projecting light on real world surfaces.
    b. It substitutes the original view with of an object with the augmented view.
    c. It gives the output when a marker is detected.
    d. It is used for GPS-denied regions

Answer: a

Justification: Refer to slides 9-12, lecture 3, week 3

12. Semi-immersive simulation is a type of
    a. AR
    b. VR
    c. Both a and b
    d. None of the above

Answer: b

Justification: Refer to slide 9, lecture 3, week 3

13. Which of the following search methods is used by a computer program that does not use artificial intelligence?
    a. Heuristic
    b. Algorithmic
    c. Approximation
    d. None of the above

Answer: b

Justification: Refer to slide 5, lecture 4, week 3

14. Select the correct statement.
    a. Artificial intelligence is a type of machine learning
    b. Deep learning is a subset of machine learning
    c. Deep learning cannot learn the features on its own.
    d. Machine learning is a subset of deep learning.

Answer: b

Justification: Refer to slides 8-10, lecture 5, week 3

15. Which of the following statements is true about the GFS file system?
    a. It is based on the Hadoop Distributed File System
    b. It is a distributed file system that supports large-scale file system
    c. It is a centralized file management system
    d. It is a file system designed specifically for unstructured data management

Answer: b

Justification: Refer to slide 18, lecture 5, week 3