

## Assignment 12

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

Due on 2020-04-22, 23:59 IST.

1)

How do UAVs monitor the crop health in agriculture field?

- a. Fertilization dispersal to various regions according to required
- b. Identify and report the health condition of the individual crop
- c. Monitor crop stress factors
- d. both (a) and (c)

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
d.

1 point

2)

How do UAVs inspect the construction sites industry?

- a. Save energy and time
- b. Take continuous complex readings of several construction structures
- c. Both (a) and (b)
- d. Option (b) only

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
d.

0 points

3)

What is the application of UAVs in mining sites?

- a. Observe miles of transmission lines in a single flight
- b. Manage stockpiles and helps in optimizing blast design
- c. Test network coverage and stability
- d. Both (a) and (b)

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
b.

1 point

4)

What is/are the advantages of UAVs in the Telecommunication Industry?

- a. Inspect towers from any angle and height
- b. Test network coverage and stability
- c. Both (a) and (b)
- d. None of the above

1 point

5)

3D mapping of carbon storage in biomass is the UAV application in the Industry of \_\_\_\_\_?

- a. Forestry
- b. Oil and Gas
- c. Warehousing and Inventory
- d. Agriculture

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

1 point

6)

In the case of applying machine learning and cloud services, the next step after identifying the machine learning algorithm is –

- a. Identifying specific data types
- b. Illustration of context, limitations, and solutions
- c. Identifying a cloud platform
- d. Creation of a roadmap

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

1 point

7)

How does IoT help in condition-based monitoring in the Chemical Industry?

- a. Analytics predict weather and its impact on farming
- b. Pricing model with the profit margin
- c. Both (a) and (b)
- d. Only (a)

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

c.

0 points

8)

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

- a. Water, nutrients, and pesticides analysis
- b. Ensure product location through sensors or RFID tags
- c. Detect Adverse Drugs Reaction (ADR)
- d. Detect allergic reaction

1 point

B

9)

0 points

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

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

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
c.

10)

0 points

IoT can help pharmaceutical companies to improve logistics in the Pharmaceutical Industry by-

- a. Inspecting the maintenance of medicine and vaccines
- b. Maintaining of machines and equipment
- c. Option (a) only
- d. Both (a) and (b)

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
d.

WEEK 12 2021A

WEEK 12 2021B

## Week 12 : Assignment 12

Assignment not submitted

Due date: 2021-10-20, 23:59 IST.

- 1) The new asset created by the IoT technology in the oil and gas industry is -
- a. Supply Chain
  - b. Customer relations
  - c. Information about various elements of their business
  - d. None of the above

☐ a.  
☐ b.  
☒ c.  
☐ d.

- 2) Following are the steps involved in the oil and gas industry work-flow.

- I. Accurately identify the required maintenance
- II. Deploy IoT solutions in different locations
- III. Generate on-premises simulated data
- IV. Apply predictive analysis

Select the option which represents the correct order of the steps

- a. IV, I, II, III
- b. IV, II, III, I
- c. I, II, III, IV
- d. I, IV, II, III

☐ a.  
☒ b.  
☐ c.  
☐ d.

- 3) In the pharmaceutical industry, IoT helps to detect --

- a. Adverse Drug Reaction
- b. Allergies
- c. Both (a) and (b)
- d. None of the above

☐ a.  
☐ b.  
☒ c.  
☐ d.

4) UAVs with transformable designs with 360 degree gimbals fall in which generation?

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

- ☐ a.
- ☐ b.
- ☐ c.
- ☒ d.

5) Which of the following is a feature of fourth generation UAVs?

- a. Intelligent piloting models and full autonomy
- b. Autopilot modes
- c. Airspace awareness
- d. Platform and payload adaptability

- ☐ a.
- ☒ b.
- ☐ c.
- ☐ d.

6) Which of the following is not a part of energy management using IoT?

- a. Inspect large boilers
- b. Inspect wind turbines
- c. Inspect bridges, dams
- d. Inspect roads

- ☐ a.
- ☐ b.
- ☐ c.
- ☒ d.

7) An application of UAV in mining is \_\_\_\_\_

- a. Inspecting wind turbines
- b. Managing stockpiles
- c. Both (a) and (b)
- d. None of the above

- ☐ a.
- ☒ b.
- ☐ c.
- ☐ d.

8) 3D mapping of carbon storage in forests using UAVs refers to measuring \_\_\_\_\_

- a. carbon storage in industrial wastes by remote sensing
- b. carbon storage in biomass by remote sensing
- c. carbon storage in industrial wastes by chemical spraying
- d. carbon storage in biomass by chemical spraying

- ☐ a.
- ☒ b.
- ☐ c.
- ☐ d.

9) Which of the following statements is true for conducting a case study?

- a. enables a researcher to closely examine the data
- b. examines data within different contexts
- c. follows no definite procedure
- d. provides only qualitative analysis of the data and not quantitative

- ☒ a.
- ☐ b.
- ☐ c.
- ☐ d.

10) IoT is used in supply chain for the real-time monitoring of \_\_\_\_\_

- a. Equipment
- b. Environment
- c. Both a and b
- d. None of the above

- ☐ a.
- ☐ b.
- ☒ c.
- ☐ d.

11) What is the use of a pneumatic valve in a milk processing plant?

- a. to control temperature according to a given set point
- b. to add chemicals into the milk processing unit
- c. to spray milk
- d. to divert milk into recycle area

- ☒ a.
- ☐ b.
- ☐ c.
- ☐ d.

12) What is MMI in manufacturing industries?

- a. Machine Management Interface
- b. Man Machine Interface
- c. Machine Monitoring Interface
- d. Machine Movement Interface

- ☐ a.
- ☒ b.
- ☐ c.
- ☐ d.

13) Which machine is used to program the user requirements as per AutoCAD designs while punching in metal sheets in a manufacturing industry?

1 point

- a. CCN
- b. CCM
- c. CNC
- d. CMC

- ☐ a.
- ☐ b.
- ☒ c.
- ☐ d.

14) HC-SR04 is a \_\_\_\_\_ sensor used for \_\_\_\_\_

1 point

- a. ultrasonic, temperature sensing
- b. ultrasonic, motion detection
- c. infrared, temperature sensing
- d. infrared, motion detection

- ☐ a.
- ☒ b.
- ☐ c.
- ☐ d.

15) What is a traditional milling machine used for?

- a. smoothing of metal sheets
- b. breaking metal sheets
- c. recycling metal sheets
- d. joining metal sheets

- ☒ a.
- ☐ b.
- ☐ c.
- ☐ d.

WEEK 12 2022A

1) Condition-based monitoring in IoT-based chemical industries includes \_\_\_\_\_.

- ☐ a. Addressing real time issues
- ☒ b. Pricing model with the profit margin

2) Which of the following is not considered as part of the workflow of an oil and gas industry?

- ☒ a. Providing top-down review

3) IoT improves logistics in a typical chemical industry by \_\_\_\_\_.

- ☐ a. Adjusting the amount of required material
- ☒ b. Detection of contamination or attacks



4) IoT applications in a typical pharmaceutical industry include \_\_\_\_\_.

- ☐ a. Quality control by continuous monitoring
- ☐ b. Drug examination
- ☒ c. Both (a) and (b)

5) UAVs in industries communicate directly to \_\_\_\_\_.

- ☒ a. An industrial control system

6) 3D mapping of carbon storage in the forest refers to \_\_\_\_\_.

- ☐ a. Managing forest plantations
- ☐ b. Measuring the emission of carbon monoxide by biomass using remote sensing
- ☐ c. Resisting deforestation
- ☒ d. Measuring the carbon storage in biomass using remote sensing

7) IoT-based forestry survey includes \_\_\_\_\_.

- ☐ a. Information about forest species
- ☐ b. Information about humans around the forest
- ☒ c. Both (a) and (b)

8) Which of the following is not an application of UAVs in mining?

- ☒ a. Inspect bridges, dams

9) Which of the following statements is true about UAVs?

- ☐ a. UAVs create unnecessary road traffic
- ☐ b. UAVs can only monitor oil and gas fields by collecting videos
- ☒ c. Traditional firework display is costlier than UAV-based light displays

10) Which of the following qualifies as the subject matter of a case study?

- ☐ a. Large number of individuals
- ☐ b. Large geographical area
- ☒ c. Limited number of individuals

11) In a milk processing and packaging industry, level sensors used in each milk silos are of \_\_\_\_\_ type and work on the principle of \_\_\_\_\_.

- ☐ a. Electrostatic, solenoid
- ☐ b. Hydrostatic, solenoid
- ☐ c. Electrostatic, strain gauge
- ☒ d. Hydrostatic, strain gauge

12) In the manufacturing process of wheel rims, automation can be used for \_\_\_\_\_.

- ☐ a. Measuring the thickness of the rim
- ☐ b. Monitoring power supply
- ☒ c. Both (a) and (b)

13) Which of the following is true about ThingSpeak?

- ☐ a. It is a type of sensor
- ☐ b. It is a network protocol
- ☐ c. It is a power module
- ☒ d. It is a cloud platform

14) DHT11 and MQ135 are respectively used for sensing \_\_\_\_\_ and \_\_\_\_\_.

- ☒ a. Temperature; humidity and air quality

15) In welding, thermocouple is used to measure \_\_\_\_\_.

- ☐ a. Electric power
- ☐ b. Forces acting on the metals
- ☒ c. Welding heat input

WEEK 12 2022B

1) Which of the following is/are the benefit(s) of using IoT in oil and gas industries?

- a. Enhance production, work safety, supply chain planning
- b. Improve asset maintenance
- c. Increase production efficiency
- d. All of the above

- ☐ a
- ☐ b
- ☐ c
- ☒ d

2) How does IoT help in chemical industry?

- a. By improving quality and equipment management
- b. Predictive maintenance
- c. By improving logistics
- d. All of the above

- ☐ a
- ☐ b
- ☐ c
- ☒ d

3) Which of the following statement is not true considering the application of IoT in pharmaceutical industry?

- a. Using IoT we cannot perform real time monitoring
- b. We will be able to control the areas remotely
- c. Proper utilization of equipment
- d. Using IoT we can reduce production cost and wastage

- ☒ a

4) Which of the following feature is available in fourth generation UAV?

- a. Transformable designs with 360° gimbals
- b. 1080 HD video or higher value instrumentation
- c. Intelligent piloting models and full autonomy
- d. Full airspace awareness

☐ a

☒ b

5) UAVs are capable of taking \_\_\_\_\_ of factory stations and substations.

- a. Aerial imagery
- b. Visual imagery
- c. Radio-frequency imagery
- d. All of the above

☐ a

☐ b

☐ c

☒ d

6) Precision forestry and canopy mapping refers to \_\_\_\_\_.

- a. Wildland fires tracking
- b. Measurement of canopy height, density and volume estimation
- c. Resisting deforestation
- d. Manage forest plantations and evenly distribute seedlings sprinkling fertilizer

☐ a

☒ b

7) Why are case studies necessary?

- a. Case studies provide in-depth knowledge and clarity of concepts regarding the research topic.
- b. Case study enables a researcher to closely examine the data
- c. Case study provides quantitative and qualitative analysis of the data
- d. All of the above

☐ a

☐ b

☐ c

☒ d

8) Which of the following is not a step of oil and gas industry work-flow?

- a. Apply predictive analytics
- b. Data moves to a cloud-based analytics platform
- c. Create a roadmap
- d. Deploy IoT Solutions in different locations

- ☐ a
- ☐ b
- ☒ c
- ☐ d

9) Real-time monitor in supply chain includes monitoring-

- a. Equipment and materials
- b. Process and environment
- c. Workers
- d. All of the above

- ☐ a
- ☐ b
- ☐ c
- ☒ d

10) We can use IoT devices to detect-

- a. Adverse Drugs Reaction (ADR)
- b. Effects of pharmaceutical excipients
- c. Allergies
- d. All of the above

- ☐ a
- ☐ b
- ☐ c
- ☒ d



11) UAVs have an \_\_\_\_\_ connection via wireless, from user to controller.

- a. Multi-hop
- b. End-to-end
- c. Both b) and a)
- d. Neither a) nor b)

☐ a

☒ b

12) The first-generation UAVs have only \_\_\_\_\_.

- a. High quality video or higher-value instrumentation
- b. Fundamental Remote-Control UAVs of different forms
- c. Autopilot modes
- d. None of the above

☐ a

☒ b

13) UAVs are applicable in which of the following fields?

- a. Energy Management
- b. Warehousing and Inventory
- c. Construction Sites
- d. All of the above

☐ a

☐ b

☐ c

☒ d

- 14) Crop health monitoring using UAVs include-
- a. Fertilization dispersal to different areas as per needed
  - b. Monitor crop stress factors (like over fertilization or drought)
  - c. Both a) and b)
  - d. Neither a) nor b)

☐ a

☐ b

☒ c

- 15) What does 3D mapping of carbon storage in the forest refer to?
- a. The estimation of the amount of vegetation
  - b. The measurement of the carbon storage in biomass by remote sensing
  - c. The Estimation of the greenhouse gases trapped in the forest through remote sensing
  - d. All of the above

☐ a

☒ b

WEEK 12 2023A

- 1) The integration of IoT with industry \_\_\_\_\_

☒ (a) Maximizes profit

☐ (b) Minimizes profit

☐ (c) Does not affect profit optimization

☐ (d) All of the above

- 2) Which of the following type(s) of analytics is/are used in the oil and gas industry workflow?

☒ (a) Predictive

- 3) IoT in the oil and gas industry improves operational excellence by using \_\_\_\_\_ maintenance.

☒ (a) Predictive

☐ (b) Prescriptive

☐ (c) Diagnostic

☐ (d) Descriptive

4) IoT increases customer loyalty by \_\_\_\_\_.

- ☐ (a) Connecting business and car
- ☐ (b) Smart application
- ☐ (c) Monitoring energy consumption profiles
- ☒ (d) All of the above

5) Which of the following option(s) is/are included in a case study?

- ☐ (a) A small geographical area
- ☐ (b) A very limited number of individuals
- ☒ (c) Both a and b

6) Which of the following point(s) is/are true for a case study?

- ☐ (a) Provides in-depth knowledge about the topic
- ☐ (b) Provides clarity of concepts regarding the research topic
- ☒ (c) Both a and b

7) IoT helps the chemical industry by \_\_\_\_\_.

- ☐ (a) Reducing energy expenses
- ☐ (b) Minimizing supply chain risk
- ☐ (c) Improving logistics
- ☒ (d) All of the above

8) In the context of "IoT in Chemical Industry," the predictive maintenance \_\_\_\_\_.

- ☒ (a) Reduces equipment breakdown

9) Which of the following option(s) is/are true for IoT sensors in the pharmaceutical industry?

- ☐ (a) Deployed in production areas
- ☐ (b) Access huge data of different manufacturing departments
- ☐ (c) Able to control the areas remotely
- ☒ (d) All of the above



10) Which of the following factor(s) is/are detected by IoT in the pharmaceutical industry?

- ☐ (a) Adverse Drugs Reaction (ADR)
- ☐ (b) Effects of pharmaceutical excipients
- ☐ (c) Allergies
- ☒ (d) All of the above

11) UAVs connected to IoT \_\_\_\_\_.

- ☐ (a) Can be programmed once
- ☐ (b) Cannot be programmed
- ☒ (c) Can be programmed multiple times

12) Which of the following option correctly defines the first generation of UAVs?

- ☒ (a) Fundamental Remote Control UAVs of different forms

13) In which area(s), UAV-based systems can be used?

- ☐ (a) Agriculture
- ☐ (b) Construction Sites
- ☐ (c) Mining
- ☒ (d) All of the above

14) Which of the following point(s) need to be considered for all industrial case studies?

- ☐ (a) Transformation of existing processes for Industry 4.0 adoption
- ☐ (b) Assessment of existing processes
- ☐ (c) Target objectives
- ☒ (d) All of the above

15) UAVs use recorded infrared, hyperspectral, and ultraviolet images to \_\_\_\_\_.

- ☐ (a) Monitor crop health
- ☐ (b) Analyze soil quality
- ☒ (c) Both a and b

1) What are the benefits of using IoT in Oil and Gas Industries? 1 point

- a. Decreased production efficiency
- b. Save cost and time
- c. Deteriorate asset maintenance
- d. None of the above

☐ a.

☒ b.

2) Which of the following statement does not represents the advantage of using IoT in the chemical industry? 1 point

- a. Predictive maintenance
- b. Reduce energy expenses
- c. Maximize supply chain risks
- d. Improve logistics

☐ a.

☐ b.

☒ c.

3) What is/are the advantages of using IoT in the Pharmaceutical industry? 1 point

- a. Real-time monitoring
- b. Inability to control the areas remotely
- c. Increased production cost and wastage
- d. All of the above

☒ a.

4) Which of the following can be performed through predictive maintenance? 1 point

- a. Address real-time issues
- b. Reduce equipment breakdown
- c. Efficient and effective maintenance
- d. All of the above

☐ a.

☐ b.

☐ c.

☒ d.

5)

1 point

State true or false — Through the application of IoT in the Pharmaceutical industry, it is possible to examine drugs and detect adverse drug reactions.

- a. True
- b. False

☒ a.

6)

1 point

Which of the following is true about the features of second-generation UAVs?

- a. Static design, fixing camera mount, still photography, video recording, and manual steering control
- b. Transformable designs, 1080 HD video or higher value instrumentation, three-axis gimbals
- c. Improved safety and regulatory, platform and payload adaptability, automated safety modes
- d. Enhanced intelligent piloting models and full autonomy, full airspace awareness, auto action

☒ a.

7)

1 point

What is/are the application field(s) of UAVs?

- a. Agriculture
- b. Mining
- c. Forestry
- d. All of the above

☐ a.  
☐ b.  
☐ c.  
☒ d.

8)

1 point

Which of the following does not represent an application of UAV in Agriculture?

- a. Crop health monitoring
- b. Monitoring soil quality, counting plants, identifying plot size
- c. Inspect construction site infrastructure and construct roadways
- d. Increase effective yields

☐ a.  
☐ b.  
☒ c.

9)

1 point

State true or false — Precision forestry and canopy mapping cannot be performed through the application of UAV in forestry.

- a. True
- b. False

- ☐ a.
- ☒ b.

10)

1 point

Which of the following does not represents the application of UAVs for energy management?

- a. Optimized use of seed, fertilizer, and water
- b. Eliminate the need to get close to the dangerous wires
- c. Inspections without climbing power poles
- d. None of the above

- ☐ a.
- ☐ b.
- ☒ c.

11)

1 point

State true or false — One of the applications of UAVs in telecommunication is to perform tower inspection.

- a. True
- b. False

- ☒ a.

12)

1 point

Match the following.

Sector	Application of UAVs
1. Mining	i. Scan a large number of items available in a warehouse
2. Healthcare	ii. Regular surface survey for optimized blast design
3. Forestry	iii. Delivery of medicines, vaccines, and snake bite serum
4. Warehousing	iv. Display information about the forest species

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

- ☐ a.
- ☒ b.

13)

1 point

What is/are the application(s) of UAVs in oil and gas industry?

- a. Reducing manpower requirements and increasing safety by eliminating the need for industrial mountaineering
- b. Monitoring pipelines for detecting leakage of oil and gas pipelines
- c. Collecting videos and thermal imagery of oil and gas fields
- d. All of the above

- ☐ a.
- ☐ b.
- ☐ c.
- ☒ d.

14)

1 point

State true or false - UAV-based light displays are generally more expensive than traditional firework displays and cannot be reused.

- a. True
- b. False

- ☐ a.
- ☒ b.

Which of the following is/are true about the necessity of case studies?

- a. The case study investigates real-life phenomena through a detailed analysis of related events.
- b. The case study generally selects a vast geographical area or a large number of individuals as the subject matter.
- c. Both (a) and (b)
- d. Neither (a) nor (b)

 a.

Week 12 2024A