



**Introduction to**

**Internet of Things**

**Assignment-Week 0**

**TYPE OF QUESTION: MCQ/MSQ**

**Number of questions: 15**

**Total marks: 15 X 1= 15**

**QUESTION 1:**

Layer “X” in HART incorporates channel hopping and channel blacklisting to increase reliability and security. What is X?

- a. Physical layer
- b. Data Link layer**
- c. Network layer
- d. Transport layer

**Correct Answer: b. Data Link layer**

**Detailed Solution:** HART Data link layer, derived from the IEEE 802.15.4 standard, incorporates channel hopping and channel blacklisting to increase reliability and security.

See lecture 11 @ 07:25

**QUESTION 2:**

What does ISA stand for in ISA 100.11A?

- a. International Society of Automation**
- b. Industrial Society of Automation
- c. International Standards of Automation
- d. Industrial Standards of Automation

**Correct Answer: a. International Society of Automation**

**Detailed Solution:** ISA100.11A is a wireless networking technology standard developed by the International Society of Automation (ISA).

See lecture 13 @ 14:30

**QUESTION 3:**

“X” is a web transfer protocol based on Request-Response model designed for M2M applications. What is “X”?



- a. AMQP
- b. CoAP**
- c. Both AMQP and CoAP
- d. None of these

**Correct Answer: b. CoAP**

**Detailed Solution:** CoAP – Constrained Application Protocol is a web transfer protocol. It is based on request-response model and designed for M2M applications. See lecture 6 @ 01:20

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#### **QUESTION 4:**

In case of XMPP protocol, binary data must be first encoded to \_\_\_\_\_ before transmission.

- a. base128
- b. base32
- c. base256
- d. base64**

**Correct Answer: d. base64**

**Detailed Solution:** Any XML character data contained within the XML elements used in XMPP protocol MUST be encoded using base64. See lecture 7 @ 16:50

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#### **QUESTION 5:**

Which of the following is NOT a constraint for UAV network?

- a. Prone to environmental effects
- b. Changing topology
- c. Frequent link breakages
- d. None of these**

**Correct Answer: d. None of these**

**Detailed Solution:** UAV network constraints include frequent link breakages, prone to environmental effects, prone to malfunction, and changing topology or node position.

See lecture 19 @ 09:43

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#### **QUESTION 6:**



Is a star topology-based UAV network self-configuring?

- a. Yes
- b. No**

**Correct Answer: b. No**

**Detailed Solution:** A star topology-based UAV network is not self-configuring.

See lecture 19 @ 13:05

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### **QUESTION 7:**

Which of the following can be used as a position sensor?

- a. RFM3200
- b. Potentiometer**
- c. DHT11
- d. PS2591

**Correct Answer: b. Potentiometer**

**Detailed Solution:** Potentiometer works by varying the position of a sliding contact across a uniform resistance. It is often used as a position sensor. See lecture 3 (Sensing)

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### **QUESTION 8:**

Which of the following is not an inbuilt function of servo library?

- a. Sweep()
- b. Knob()
- c. Move()**
- d. None of the above

**Correct Answer: c. Move()**

**Detailed Solution:** Knob() and Sweep() are the inbuilt functions.  
See lecture 25 @ 11:15

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### **QUESTION 9:**



Which of the following is true for “= ” operator in python programming?

- a. compares the values of both the operands and checks for value equality
- b. checks whether both the operands refer to the same object
- c. checks if the value is found in the sequence
- d. None of the above

**Correct Answer:** a. compares the values of both the operands and checks for value equality

**Detailed Solution:** As per basics of Python programming.

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### **QUESTION 10:**

Which of the following is not a component of a switch?

- a. Application
- b. Operating System
- c. Specialized hardware
- d. None of these

**Correct Answer:** d. None of these

**Detailed Solution:** Since switches in non-SDN do not have global view of the network, they use a decentralized method for forwarding the data. (Please refer Lecture 33@9:13)

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### **QUESTION 11:**

Which of the following is not a function of the Application Plane in Software-Defined Network (SDN) architecture?

- a. Routing
- b. Security
- c. Traffic Engineering
- d. Forwarding

**Correct Answer:** d. Forwarding

**Detailed Solution:** The Data Plane in SDN is responsible for data forwarding. (Please refer Lecture 33@12:25)

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**QUESTION 12:**

Who among the following are benefited on using smart grids?

- a. Consumers
- b. Stakeholders
- c. Both consumers and stakeholders
- d. Neither consumers nor stakeholders

**Correct Answer: c. Both consumers and stakeholders**

**Detailed Answer:** Both consumers and stakeholders are benefited on using smart grids.  
(Please refer Lecture 51 @ 13:54)

**QUESTION 13:**

Micro-grids can detach from the main smart grids at any point of time without disrupting the core grid.

- a. True
- b. False

**Correct Answer: a. True**

**Detailed Answer:** Micro-grids can detach from the main smart grids at any point of time without disrupting the core grid.

**QUESTION 14:**

Proactive rule placement in Mobi-Flow depends on which of the following user characteristic?

- a. User portfolio
- b. User movement
- c. User handoff
- d. User type

**Correct Answer: b. User movement**

**Detailed Answer:** The proactive rule placement depends on the user movement and position in the future course of time. (Please refer Lecture 36 @ 15:18)



**QUESTION 15:**

Fill in the blank: Typically, cloud computing have \_\_\_\_\_ components?

- a. 4
- b. 5
- c. 6**
- d. 7

**Correct Answer: c. 6**

**Detailed Answer:** Cloud computing has 6 components. They are clients, services, applications, platforms, storage, and infrastructure. (Please refer Lecture 37@23:31)

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