

IoT MCQ Exam Preparation Help Provided		
Component	Role	AWS Equivalent
Nova	Manages virtual machines (VMs)	EC2
Swift	Object storage (files, backups)	S3
Cinder	Block storage (like hard disks) 	EBS
Neutron	Networking & IP management	VPC
Keystone	Authentication & access control	IAM
Glance	Stores VM images/templates	AMI
Horizon	Web dashboard for management	AWS Console
Heat	Automates app deployment (templates)	CloudFormation

Message DeepSeek

DeepThink (R1)

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communication.

See lecture 7 (Basics of IoT Networking – Part III) @ 04:19

QUESTION 6:

Which of the following is a messaging mode in CoAP?

- a. Append
- b. Substitute
- c. Attempt
- d. Separate



Correct Answer: d. Separate ◇

Detailed Solution: CoAP has four messaging modes

- Confirmable
- Non-Confirmable
- Piggyback
- Separate

See lecture 7 (Basics of IoT Networking – Part III) @ 05:29

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Screenshots

QUESTION 3:

The function/functions of an IoT Gateway is/are to?

- a. Forward packets between LAN and WAN and on the IP layer
- b. Connect IoT LAN to a WAN
- c. Both (a) and (b)
- d. None of these

Correct Answer: c. Both (a) and (b)

Detailed Solution: An IoT Gateway is a router connecting the IoT LAN to a WAN to the Internet, can implement several LAN and WAN, Forwards packets between LAN and WAN and on the IP layer.

See lecture 2 (Introduction to IoT – Part - II) @ 04:44

AMQP is a protocol of which layer?

- a. Transport Layer
- b. Application Layer

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a. Large number of nodes or devices
b. High cost
c. Energy efficient
d. Small traffic per machine/device

Correct Answer: b. High cost

Detailed Solution: Features of M2M –

- Large number of nodes or devices
- Low cost
- Energy efficient
- Small traffic per machine/device

See lecture 20 (Machine to Machine Communication) @ 9:24

QUESTION 15:

Which of the following is NOT an M2M node type?

- a. Low End Node
- b. High End Node
- c. Out End Node
- d. None of these

Correct Answer: c. Out End Node

Detailed Solution: The three node types of M2M are –

- Low end node
- Mid end node
- High end node

See lecture 20 (Machine to Machine Communication) @ 10:35

Correct Answer: c. Both heterogeneity and interoperability

Detailed Solution: Since the two sensors sense different parameters in different formats and communicates with different protocols, this is an issue of both heterogeneity and interoperability. Refer lecture 21 on introduction to interoperability

QUESTION 2:

RESTful web services are utilized for _____.

- a. Syntactic interoperability for device interaction
- b. Semantic interoperability for device interaction
- c. Both (a) and (b)
- d. None of the above →

Correct Answer: a. Syntactic interoperability for device interaction

Detailed Solution: Service-oriented computing-based architecture, RESTful web services, open standard protocols (IEEE 802.15.4), and closed protocols (Z-wave) are the popular approaches utilized towards syntactic interoperability for device interaction.

See lecture 21 @ 17:40

- Uses **open standards** (HTTP, MQTT, CoAP) for interoperability.
- **Key Traits:**

- Decentralized, **peer-to-peer communication**.
- Scalable for **diverse applications** (fleet tracking, healthcare).
- **Cloud-centric** with APIs for data sharing.

Your Statement Explained:

- "**SCADA for isolated systems**" → True. SCADA thrives in closed, industrial environments.
- "**M2M for cross-platform**" → True. M2M connects heterogeneous devices across domains.

MCQ Example:

Which system uses proprietary protocols for industrial isolation?

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Detailed Solution: UNSPC stands for United Nations Standard Products and Services Code. It is one of the device classification solutions. eCl@ss is the standard utilized for classification and clear description of cross-industry products. Electronic Product Code (EPC) is used to generate unique addresses for device identification. See lecture 21 @ 16:30

QUESTION 6:

What does the routing component in UMB-C use for routing the metadata messages?

- a. Flow Table
- b. Routing Table

Correct Answer: c. Traditional Network: Routing Table, Software Defined Network: Flow Table

Detailed Solution: All switches in traditional network have routing tables and those in Software Defined Network have flow tables (Please refer Lecture 33@17:15)

QUESTION 13:

What are the benefits of using SDN over IoT?

- a. Management of device heterogeneity
- b. Management of end-device mobility and dynamic flow rules
- c. Software control of end-devices, i.e sensors and actuators
- d. All of the given

Correct Answer: d. All of the given

Detailed Solution: SDN over IoT can be used to solve a plethora of issues and problems in a dynamic and efficient manner. Refer lecture 35, SDN over IoT



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Detailed Answer: A thin client is a network computer without a hard disk drive and high configurations. They act as simple terminals and require constant communication with the servers. (Please refer Lecture 37@20:00)

QUESTION 10:

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

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

Correct Answer: c. 6

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

QUESTION 11:

None of these

Correct Answer: d. None of these

Detailed Solution: The Konnex is an important standard for home and building networks. It utilizes full range of home communication. It must be setup and configured before its proper usage (Please refer Lecture 48@14:41)



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QUESTION 9:

With respect to AMQP, which of the following message delivery guarantees allow for each message to be delivered certainly as well as to be delivered multiple times.

- a. At-least-once
- b. At-most-once
- c. Exactly-once
- d. Both (a) and (b)

Correct Answer: a. At-least-once

Detailed Solution: The message delivery guarantees of AMQP are –

- At-most-once – each message is delivered once or never.
- At-least-once – each message is certain to be delivered, but may do so multiple times.
- Exactly-once – message will always certainly arrive and do so only once.



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Here are the **9 frame types** in **AMQP** (Advanced Message Queuing Protocol):

1. **Open**
2. **Begin**
3. **Attach**
4. **Flow**
5. **Transfer**
6. **Disposition**
7. **Detach**
8. **End**
9. **Close**





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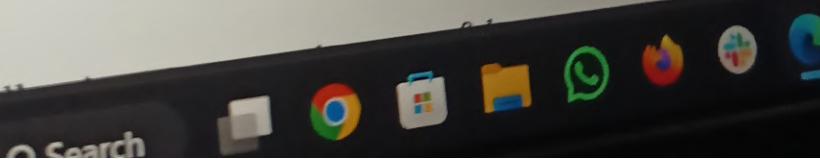


Detailed Solution: The components of the M2M ecosystem are as follows –

- a. Device Providers
- b. Internet Service Providers (ISPs)
- c. Platform Providers
- d. Service Providers
- e. Service Users

See lecture 20 (Machine to Machine Communication) @ 13:00

QUESTION 14:



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QUESTION 15:

“Network, Accelerator, Compute and Storage” constitute the part of which view of fog computing architecture, as defined by *OpenFog Consortium Architecture Working Group*?

- a. System View
- b. Node View**
- c. Software View
- d. None of these

Correct Answer: b. Node View

Detailed Solution: Fog Computing Architectural framework has several views, node, system and software among them. Network, Accelerator, Compute and Storage fall under Node View. Refer Chapter 11 (Page 260) of “Introduction to IoT” by Sudip Misra, Anandarup Mukherjee, Arijit Roy, Cambridge University Press, 2021.



northbound and so...



Northbound APIs:

- **Direction:** From application-level to the SDN controller.
- **Function:** Allow applications to request network resources (e.g., bandwidth, storage) or manage network configurations.
- **Examples:** RESTful APIs, web interfaces.
- **Purpose:** To abstract network complexities from applications, enabling them to interact with the network without understanding its internal workings.

Southbound APIs:

- **Direction:** From SDN controller to network devices (switches, routers).
- **Function:** Allow the SDN controller to send commands to network devices to configure, manage, and control network traffic.
- **Examples:** OpenFlow, NETCONF, protocols like OSPF, BGP.
- **Purpose:** To provide a standardized way



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QUESTION 2:

Which of the following is a stage in data fusion?

- a. Decision level
- b. Feature level
- c. Pixel level
- d. All of the above

Correct Answer: d. All of the above

Detailed Solution : Decision level, feature level, pixel level and signal level are the four stages of data fusion. (Please refer Lecture 47@11:00)



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QUESTION 3:

Which of the following is one of the challenges of Data fusion?

- a. Imperfection
- b. Conflicts
- c. Ambiguity
- d. All of the above

Correct Answer: d. All of the above

Detailed Solution : The challenges of data fusion involves Imperfection, Conflicts and Ambiguity. (Please refer Lecture 47@9:16)

QUESTION 4:

Which of the following is one of the theory of evidence-based mathematical methods of data fusion?

STION 1:

What are some of the other names of the smart grids?

- a. Electricity with a brain
- b. Energy internet
- c. Electronet
- d. All of these

Correct Answer: d. All of these

Detailed Solution: Smart grids are also known as Electricity w Electronet. (Please refer Lecture 51 @ 8:33)