Introduction to

Internet of Things

Assignment-Week 7

TYPE OF QUESTION: MCQ/MSQ

Number of questions: **15**   **Total marks: 15 X 1= 15**

QUESTION 1:

In Python socket programming, while defining a socket, SOCK_STREAM refers to a type of

  a. SocketFamily

  b. SocketType

  c. SocketName

  d. SocketProtocol

  Correct Answer: b. SOCK_STREAM refers to a type of SocketType, i.e either TCP socket or UDP socket.

  Detailed Solution: Refer Lecture 31@6:27

QUESTION 2:

If you want to change the label of the Y-axis while plotting a graph using matplotlib in Python, what among the following functions do you use? Suppose you have imported matplotlib as plt

  a. plt.show()

  b. plt.plot()

  c. plt.ylabel()

d. plt.yaxis()

Correct Answer: c. plt.ylabel()

Detailed Solution: Refer Lecture 32@12:39.

QUESTION 3:

In Socket programming, the parameter AF_INET stands for _____.

        a. Unix protocols

        b. Internet Protocol (IP)

        c. File sharing

        d. Time slicing

Correct Answer: b. Internet Protocol (IP)

Detailed Solution The AF_INET specifies the rules and standards of the Internet protocol, hence the socket acts as an IP socket. (Please refer Lecture 31@14:13)

QUESTION 4:

Suppose a Python server is receiving data from a socket as follows,

        data, addr = sock.recvfrom(1024)

What kind of socket 'sock' is being considered here.

        a.   TCP socket

        b.   UDP socket

        c.   TAP socket

d. None of the given

Correct Answer: b. UDP socket

Detailed Solution: sock.recvfrom() is the form used to receive data from UDP sockets. Refer to any standard socket programming documentations.

QUESTION 5:

What is the use of the Mobi-Flow protocol?

  a. Enabling static SDN

  b. Enabling SDN to incorporate mobility

  c. Enabling Odin Master

  d. Enabling traditional BGP

Correct Answer: b. Enabling SDN to incorporate mobility

Detailed Solution: Refer Lecture 34@14:41.

QUESTION 6:

During remote server access using socket programming what is the utility of the <socket_name>.listen() function?

  a. To create a new socket

  b. To bind the socket to connection

  c. To wait for clients to connect

  d. To close the connection

Correct Answer: c. To wait for clients to connect

Detailed Solution: listen() function makes the server wait for incoming client connections (Refer Lecture 31 ppt no 13)

QUESTION 7:

Which among the following is the correct direction for PACKET_OUT type messages in SDN?

a.   From controller to switch

b.   From switch to controller

c.   Between two switches

d.   Between two controllers

Correct Answer: a. From controller to switch

Detailed Solution: PACKET_OUT messages are sent from switches to the controller upon receipt of new unknown packets. Refer lecture 33, ppt no 20.

QUESTION 8:

Which among the following is a limitation of the traditional non-SDN networks?

a. Switches do not possess routing table

b. Switches are unable to forward traffic

c. Switches do not have a global view of the network.

d. All of the given

Correct Answer: c. Switches do not have a global view of the network.

Detailed Solution: Refer Lecture 33@6:53.

QUESTION 9:

During remote server access by a Raspberry Pi, where the Raspberry Pi acts as a client, the client needs the following?

        a. Only IP address of server

        b. Only port number

        c. Both server IP address and port number

        d. Client's IP address

        Correct Answer: c. Both server IP address and port number

        Detailed Solution: A client can communicate with a server only if both IP address and port numbers are known. (Please refer Lecture 31@14:13)

QUESTION 10:

With respect to the concept of soft time-out and hard time-out in SDN switches, which of the following relations hold?

        a.   Soft time-out > = hard time-out

        b.   Hard time-out >= soft time-out

  c. Soft time-out = hard time-out always

  d. None of the given

Correct Answer: b. Hard time-out >= soft time-out

Detailed Solution: Hard time-outs of flow rules are always greater than soft time-outs, not the other way round. Refer lecture 33, OpenFlow Protocol III

QUESTION 11:

Which of the following is true?

  a. Traditional Network: Routing Table, Software Defined Network: Routing Table

  b. Traditional Network: Flow Table, Software Defined Network: Routing Table

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

  d. Traditional Network: Flow Table, Software Defined Network: Flow 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 12:

Consider the following figure below. To which issue of SDN does this particular figure can be related to?

Match SDN Applications First and Use Normal For Unmatched Packets (Hybrid Default Forwarding)										
Priority	Ingress Port	MAC Source Address	MAC Destination	Protocol	Vlan ID	IP Source Address	IP Destination	Source Port	Destination Port	Instructions
10000	*	*	*	TCP	*	*	10.1.1.20/32	*	80	Forward to Port 1
5000	*	*	*	*	*	*	10.1.1.0/24	*	*	Forward to Port 2
500	*	*	*	*	2500	*	*	*	*	Send to Controller
0	*	*	*	*	*	*	*	*	*	OF Normal

a. Controller placement issue

b. Flow Rule placement issue

c. Hardware placement issue

d. Analysis placement issue

Correct Answer: b. Flow Rule placement issue

Detailed Solution: The given figures shows the tabular structure of how flow rules are installed within SDN switches, so it pertains to flow rule placement issues. Refer Lecture 33@18:54, Rule Placement.

QUESTION 13:

With respect to the directional APIs in SDN, what is the functionality of East-Westbound APIs?

a. To communicate between the controller and switches

b. To communicate among multiple controllers

c. East-Westbound APIs do not exist

d. To communicate between switches themselves.

Correct Answer: b. To communicate among multiple controllers.

Detailed Solution: Refer Lecture 34@2:10.

QUESTION 14:

Hierarchical SDN architecture is also known as _____ architecture.

a. Tree

b. Flat

c. Mesh

d. Line

Correct Answer: a. Tree

Detailed Solution: Refer Lecture 34@6:12

QUESTION 15:

Integrating SDN with IoT is not recommended and is not a suitable approach to follow

a. False

b. True

Correct Answer: a. False

Detailed Solution: SDN integration with IoT is highly recommended for efficient delivery of services. Refer Lecture 35.

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