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Week 07: Assignment 07

The due date for submitting this assignment has passed.

Due on 2025-09-10, 23:59 IST.

Assignment submitted on 2025-09-05, 10:15 IST

1) A Raspberry Pi can read data from a sensor but cannot send it over to a remote server for further processing. *1 point*

a. True
b. False

○ a.
● b.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

2) In Python socket programming, with respect to the *sock.bind(server_address)* function, which among the following does the variable *server_address* contain? *1 point*

a. IP address of destination
b. Port number of destination server
c. Neither IP address nor port number of destination server
d. Both IP address and port number of destination server

○ a.
○ b.
○ c.
● d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
d.

3) In Python matplotlib, in order to display the graphical plot on a terminal, the command *plt.plot()* is used in conjunction with which of the following? *1 point*

a. plt.plt()
b. plt.show()
c. plt.xtics()
d. plt.axes()

○ a.
● b.
○ c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

4) The following Python code displays a parabolic plot using matplotlib. *1 point*

```
import numpy as np

import matplotlib.pyplot as plt

x = np.linspace(-10, 10, 400)

y = x**2

plt.figure(figsize=(8, 6))

plt.xlabel("x", fontname="Times New Roman", fontsize=12)

plt.ylabel("y", fontname="Times New Roman", fontsize=12)

plt.title("Plot of a Parabola: y = x²", fontname="Times New Roman", fontsize=14)

plt.grid(True)

plt.legend(loc="upper left")

plt.axhline(0, color='black', linewidth=0.5)  # x-axis

plt.axvline(0, color='black', linewidth=0.5)  # y-axis

plt.show()
```

Observe the code very carefully. Will the code plot the desired parabola?

a. Yes
b. No

○ a.
● b.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

5) With respect to the above Question (Question 4), which the must be added to make the code display the parabola? *1 point*

a. Nothing, the code works fine
b. plt.xtics() method
c. plt.plot() method
d. plt.setfigure() method

○ a.
○ b.
● c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
c.

6) In Python, suppose that that string text = ‘It^is my#birthday!I am*Happy’. *1 point*

What will the output of the following instruction

```
data = text.split(‘ ’)
print(data[1])
```

a. It^is my#birthday!I am*Happy
b. my#birthday!I
c. am*Happy
d. It^is

○ a.
● b.
○ c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

7) Consider the same text again *1 point*

text = ‘It^is my#birthday!I am*Happy’

Now consider the following instructions. What will be the output?

```
data = text.split('r')
print(data[1].split('bi'))
```

a. my#birth
b. *Happy
c. thday!I am*Happy
d. It^is

○ a.
○ b.
● c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
c.

8) With respect to SDN for IoT what does ‘end-devices’ in the phrase ‘control for end-devices’ mean? *1 point*

a. SDN Controllers
b. SDN Switches
c. Sensors and Actuators
d. Database

○ a.
○ b.
● c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
c.

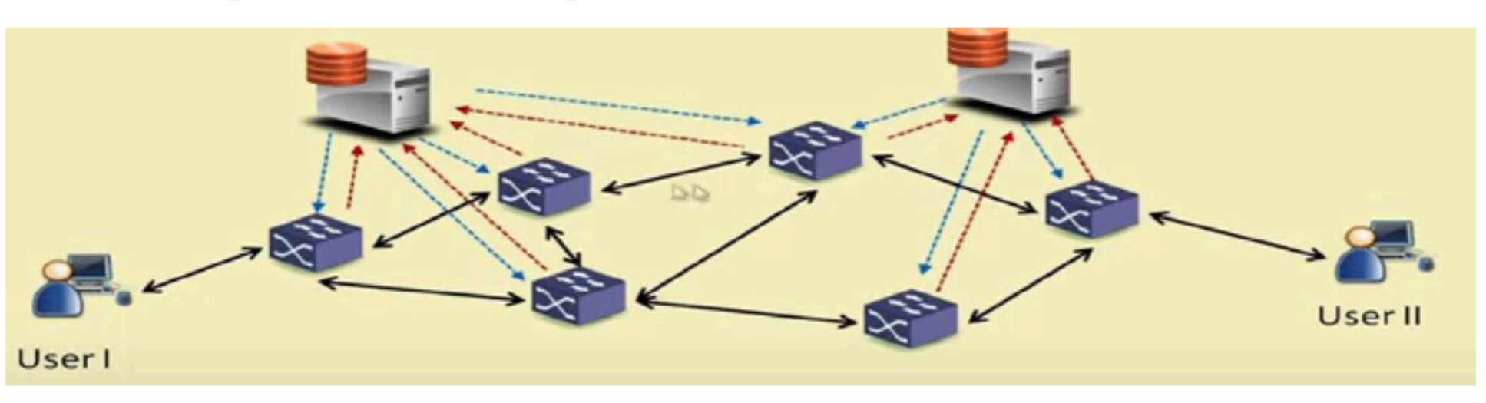
9) A Network Operating System (NOS) resides in which of the following logical plane? *1 point*

a. Application Plane
b. Control Plane
c. Data Plane
d. Both Data Plane as well as Application Plane

○ a.
● b.
○ c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

10) Consider the figure of the network as given below. *1 point*



Which of the following network topologies does this figure relate to?

a. Ring topology
b. Bus topology
c. Mesh topology
d. Tree topology

○ a.
○ b.
● c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
c.

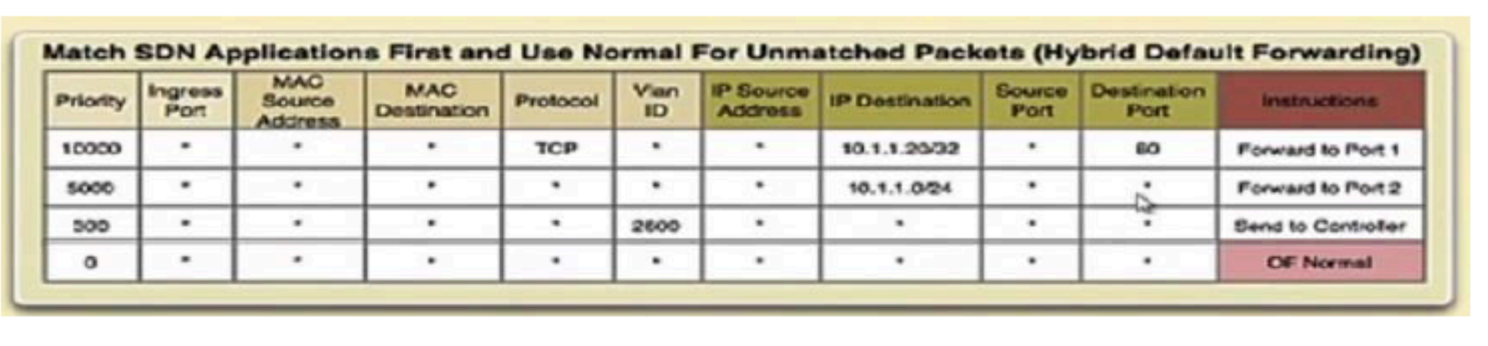
11) With respect to the same figure (given below), what does the blue directional dotted arrows from the controller to the switches represent? *1 point*

a. Northbound API
b. Southbound API
c. Eastbound API
d. Westbound API

○ a.
● b.
○ c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

12) Consider the following figure below. To which issue of SDN does this particular figure can be related to? *1 point*



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	*	*	*	*	2600	*	*	*	*	Send to Controller
0	*	*	*	*	*	*	*	*	*	OF Normal

a. Controller placement issue
b. Flow Rule placement issue
c. Hardware placement issue
d. Analysis placement issue

○ a.
● b.
○ c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

13) Which among the following is the most suitable utility of Mininet? *1 point*

a. To act as a virtual sensor
b. To provide a simulation environment for SDN with OpenFlow
c. To act as a generic antenna simulator
d. To perform load testing and analysis.

○ a.
● b.
○ c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

14) Control of end devices such as sensors and actuators do not form a use-case for Software Defined IoT. *1 point*

a. True
b. False

○ a.
● b.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.

15) With respect to packet delivery ratio, which of the following is true? *1 point*

a. WSN outperforms Soft-WSN
b. Soft-WSN outperforms WSN
c. Neither of Soft-WSN and WSN outperform each other
d. No relation between Soft-WSN and WSN

○ a.
● b.
○ c.
○ d.

Yes, the answer is correct.
Score: 1
Accepted Answers:
b.