Registration Number:

Date 7-12-2022 ( 9 am )

**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU -27**

**M.SC– Computer Science III SEMESTER**

 **SEMESTER EXAMINATION: OCTOBER 2022**

**(Examination conducted in December 2022)**

**CSDE9322: Internet of Things (IoT)**

**Time: 2 ½ Hours Max Marks: 70**

**This paper contains 3 printed pages and 3 parts**

**PART-A**

**Answer all THE questions (1 X 15 = 15)**

1. Arduino IDE is written in which programming language
2. Python
3. PERL
4. C/C ++
5. Java
6. Which of the following API allows the user to control electronic components..
7. VNC APT
8. RESTFUL API
9. MQTT API
10. Andriod API
11. The standard port number of secure MQTT is
12. 8883
13. 8080
14. 1989
15. 1020
16. SLA stands for \_\_\_\_\_\_\_\_\_
17. Service Leverage Associate
18. Service Level Assistant
19. Service Level Agreement
20. Service Level Agreement
21. The term IoT was coined in
22. 2000
23. 1999
24. 1998
25. 1997
26. Identify among the following which is not an IoT platform.
27. Azure
28. AWS
29. Flipkart
30. Salesforce

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1. Identify the lightweight protocol.
2. HTTP
3. MQTT
4. XMPP
5. CoAP
6. How power supply is done to Rasberry pi
7. USB
8. PCB
9. Ethernet cable
10. HDMI Port
11. What is the Ethernet/LAN cable used in RPi?

a) Cat5

b) Cat5e

c) Cat6

d) RJ45

1. Which instruction set architecture is used in Raspberry Pi?

a) X86

b) MSP

c) AVR

d) ARM

1. What are the distributions are supported by raspberry Pi?
a)ArchLinux
b)Debain
c)FedoraRemix
d) All the Above
2. Which other AWS Service AWS IoT works with?
3. lambda only
4. any AWS service, options are limitless
5. S3 service
6. Cloud watch
7. MIoT stands for
8. Manufacturing IoT
9. Marketing IoT
10. Medicine IoT
11. Machine IoT
12. What is AWS IoT Rule engine
13. Provides analytics processing and integration with other desktop services
14. enables device integration with other Open source services
15. Provides shopping list processing and integration with other AWS services
16. enables continuous processing of inbound data from devices connected to AWS IoT Core.
17. What is AWS IoT Events?
18. you can only detect and but not respond to events from IoT sensors and applications
19. Service which works with SNS only
20. you can easily detect and respond to events from IoT sensors and applications
21. you can not easily detect and respond to events from IoT sensors and applications

**PART- B**

**Answer ALL questions ( 5X 5 = 25)**

1. a. Tell about Evolution of IoT and explain it in brief.

(OR)

 b. Compare and contrast between Arduno and Rasberry Pi.

1. a. Elaborate the steps to how will you connect LED with Rasberry Pi using sensors?

(OR)

 b. Describe about Zigbee and NFC Protocol in brief.

1. a. Discuss about IP V6 Protocol in Detail.

(OR)

 b. How do you control device using MQTT protocol with Rasberry Pi

1. a. How will you register device and create security services in AWS IoT Cloud

 (OR)

 b. Describe about different services used in AWS

1. a. Discuss about challenges in sensor devices

 (OR)

 b. How will you monitor and maintain sensor data ?

**PART- C**

**Answer any Three questions (10 X 3 = 30)**

1. Elaborate the applications of IoT in Agriculture, Smart city and IIoT scenarios.
2. a. Discuss about LoRAWAN and NFC used in IoT (5 marks)

b. Explain briefly about Cloud Computing (5 Marks)

1. a. Illustrate IBM Watson IoT in Detail (5 marks)

b. How will you trigger another service in AWS using SQL Query (5 marks)

1. a. Write a Python code for MQTT Protocol for subscribe client (5 marks)

b. Discuss about XMPP and AMQP Protocol in detail (5 marks)