Sl. No.

B2.5-R5 : CLOUD COMPUTING AND INTERNET OF THINGS (IOT)

NOTE :
1. **Answer Question 1 and attempt any FOUR Questions from 2 to 7.**
2. **Parts of the same question should be answered together and in the same sequence.**

Total Time : 3 Hours   **Total Marks : 100**

1. (a) What is internet of things ? Explain with suitable examples.

   (b) How cloud infrastructure can be used for a database system in IoT based applications.

   (c) Define the communication standards adopted in IoT based systems with suitable example.

   (d) List out the I/O interfaces used in IoT.

   (e) What are the roles of sensors and actuators in IoT Systems ?

   (f) Explain IPv4 and IPv6.

   (g) Explain cloud computing challenges in the perspective of IoT.

                                                                   (7X4)

2. (a) Draw the Architecture of IoT based systems and briefly explain about each of the layers.

   (b) What can be the role of IoT in smart agriculture system? List out the area which can be assisted by IoT system to make farming better.

                                                                   (10+8)

3. (a) Explain how the IoT technology is impacting the healthcare sector and changing our everyday lifestyle.

   (b) What are the roles of Arduino in any IoT system ? Which Arduino board is used in it ?

                                                                   (9+9)

4. (a) In what scenarios MQTT protocol is used and why ? Explain.

   (b) How the Internet of Things may affect security & privacy ? Explain.

   (c) What is the role of cloud computing in IoT ? Name two cloud platform which support IoT.

                                                                   (6+4+8)

5. (a) What is the role of communication standards in IoT system ? Compare and contrast between ZigBee and Wi-Fi.

   (b) Explain IoT Protocol Stack with neat and clean diagram.

   (c) How standardization and security are major concerns in smooth implementation of IoT based systems ?

                                                                   (6+6+6)

6. (a) How the Internet of Things is Improving lives and livelihoods in developing countries ?

(b) Why is there need to customize the traditional network protocol to meet the IoT environment ?

(c) How can wearable devices be helpful for monitoring the patient's health ? Wearable devices can be kept under IoT devices, Justify.

(5+6+7)

7. Write a Short Note on following :

(a) Fog Computing

(b) 6lowPAN

(c) IaaS, PaaS and SaaS.

(6+6+6)

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