505203

May 2024
M.Tech. (ECE) II SEMESTER
Internet of Things (MECE-202)

Time : 3 Hours] [Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART–A

1. (a) What is the role of things and internet in IoT? (1.5)

   (b) What kind of IP is used in addressing IOT devices? Give an example. (1.5)

   (c) Enlist network topologies ideal for IoT. (1.5)

   (d) What are the advantages of fixed WSN nodes infrastructure? (1.5)

   (e) What is the role of cloud platforms in IoT? (1.5)

   (f) What is MQTT? (1.5)

   (g) Why hop to hop communication is preferable in IoT? (1.5)

   (h) What is IoT middleware? Give some examples. (1.5)

(i) Enlist differences between zigbee and z-wave. (1.5)

(j) What is the difference between sensors and actuators? (1.5)

PART–B

2. (a) How do IoT devices communicate? Explain with suitable diagams. (8)

(b) Explain Modified OSI Stack for the IoT/M2M Systems. (7)

3. (a) What are the three layers that make up SDN? What is the main purpose of introducing SDN Software Defined Networking? (8)

(b) Describe in detail about the various challenges and issues in IoT. (7)

4. What is wireless sensor network? Discuss the benefits and limitations of wireless Sensor Networks. (15)

5. (a) What are the challenges and opportunities of data management in IoT? Explain the business. models for predictive maintenance. (8)

(b) Explain the business models for predictive maintenance. (7)

6. (a) Enlist salient features of IT Act, 2000 and its scope for IoT legislation. (8)

(b) What are the security and private issues of IoT? Is API Testing required in the testing of IoT devices? (7)

7. (a) Why prototyping embedded software does becomes easy using an IDE for a device platfonn? What are architectural layers in a modified OSI model for internet of things applications? (8)

(b) What are the three layers that make up SDN? What is the main purpose of introducing SDN Software Defined Networking? (7)

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