May 2024

B. Tech. (ENC) (Sixth Semester)

Internet of Things (PEC-CS-S-703)

Time : 3 Hours]   [*Maximum Marks : 75*

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

Part A

1. (a) Define IoT and M2M. Give any *two* applications of each.   **1.5**

   (b) What is SDN ? Give its advantages.   **1.5**

   (c) What is Survey routing protocol in IoT ? Give its benefits.   **1.5**

   (d) Define Data aggregation. Give its types and examples.   **1.5**

   (e) What is meant by Web of Things ? Give its main purpose and examples.   **1.5**

   (f) Define Sensor deployment. Give its types and applications in IoT.   **1.5**

(g) Make differences between IoT and Cloud of things. **1.5**

(h) What are the two pillars of the web ? Briefly explain. **1.5**

(i) What is meant by surveillance in IoT ? Give its types and examples. **1.5**

(j) Define Software Agent. Give its benefits in IoT. **1.5**

Part B

2. (a) Enlists various challenges and Communication APIs in IoT. Briefly explain the operation of SDN. **10**

(b) Differentiate between Physical design and Logical design of IoT. **5**

3. (a) What is wireless media access issues ? Explain its role and significance in IoT. **5**

(b) What do you understand by MAC protocol survey ? Using an example, explain the concept and operation of Data dissemination in IoT. **10**

4. Differentiate between WoT and IoT. Using suitable schematics, explain the concept and working of Unified Multitier-WoT architecture. Give its merits also. **1**

5. (a) What is SOA in grid computing ? Differentiate between Grid and Cloud computing. **5**

(b) What are Cloud standards ? Using an example, explain the working, merits and applications of Cloud middleware. **10**

6. (a) What are the elements of a Home automation system in IoT ? Briefly explain the principle, objectives and benefits of Home automation. **10**

(b) Enlists characteristics of Software agents. Classify and explain their merits in IoT. **5**

7. What is meant by Resource Management in IOT ? Using an example, explain the concept, operation and merits of Clustering and Synchronization. **15**