August/September 2022
B.Tech(EIC) VI SEMESTER
Internet of Things (EIEL-601)

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

Q1 (a) What are the security and private issues of IoT? Explain using suitable case (1.5) scenario.

(b) What are architectural layers in a modified OSI model for internet of things (1.5) applications?

(c) What are the protocols needed in web connectivity in IoT applications?   (1.5)

(d) What is MAC address? How does a MAC address assign to an IoT node? How (1.5) does address resolved to enable packets in IP network reach the node?

(e) What is MySQL server instance and client?   (1.5)

(f) What are open protocols, tools and framework generally used in M2M.   (1.5)

(g) Why does prototyping embedded software become easy using an IDE for a (1.5) device platform?

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

(i) What is Machine to Machine communication (M2M)?   (1.5)

(j) Define the following:-   (1.5)
   a. RDBMS
   b. Row/Tuple
   c. Cardinality

PART -B

Q2 (a) Explain service choreography and Processing of IoT services with a neat (10) diagram

(b) What does the fourth Industrial Revolution entail? What is the difference (5) between Industry 4.0 and the Internet of Things (IoT)?

Q3 (a) In an IoT application: 1.Does Raspberry Pi (RPi) need external hardware? (5) 2. Does RPi have an internal memory? · 3. What do we use to connect TV to RPi? · 4. How power supply is done to RPi?

(b) Show and explain the header fields in a 6LoWPAN frame and IP Packet.   (10)

Q4   Write a note on: 1) Trust for IoT 2) Security and Privacy for IoT 3) Physical IoT (15) Security.

Q5 (a) Write a program to toggle a string in MySQL. (5)

(b) Enlist difference between DDL and DML commands. Also give examples of TCL (10) and DCL commands.

Q6 (a) Explain TCP/IP vs IoT protocol sack Explain with example MQTT Protocol. (10) What is role of MQTT protocol in IoT?

(b) Specify function of CoAp, RESTful HTTP, MQTT and XMPP in IoT apps. (5)

Q7 Explain the deployment and operational view, resources, services, virtual (15) entities, users in an IoT system by considering a Parking lot example.

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