August/September 2022
B.Tech(ENC) VI SEMESTER
Internet of Things (PEC-CS-S-703)

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

   (b) How do sensors and actuators in the things connect securely to interconnect?   (1.5)

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

   (d) With an example explain programming of OS multithreading functions.   (1.5)

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

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

   (g) Why we need of IoT Security. Explain issues in IoT security.   (1.5)

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

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

   (j) Why RIP is not used in internet service? What is the purpose of RIP?   (1.5)

PART -B

Q2 (a) Explain role of APIs in IoT with example. Explain different networking and (10) communication model in IoT.

   (b) What is Machine to Machine communication (M2M)? What are open protocols,   (5) tools and framework generally used in M2M?

Q3 (a) What do you understand by WEB of Things? Differentiate between WEB of Things   (5) and Internet of Things.

   (b) What is MAC address? How does a MAC address assign to an IoT node? How (10) does address resolved to enable packets in IP network reach the node?

Q4   What is the role of things and internet in IoT. Briefly explain about components (15) in Internet of Things along with its architecture.

Q5 (a) Give examples of IoT open source frameworks for implementation tools, web   (5) services, middleware and cloud computing.

   (b) Explain Data visualization and its importance in IoT. Explain what are the (10) components and Communication media required for making smart home.

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

(b) What are the protocols needed in web connectivity in IoT applications? What (5)
are the functions of communication gateway?

Q7   With the help of IoT architectural layers explain IoT in Healthcare system   (15)

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