

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 stack 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)
