

CBCS SCHEME

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22SCS/SCN14

First Semester M.Tech. Degree Examination, Dec.2023/Jan.2024

Internet of Things and Applications

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any **FIVE** full questions, choosing **ONE** full question from each module.

2. M : Marks , L: Bloom's level , C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	What does the term “Internet of things” denote? Mention the technical challenges on those which IoT relies on?	10	L1	CO1
	b.	Discuss the typical requirement of distributed control/M2M.	10	L3	CO1
OR					
Q.2	a.	Discuss the scope of Internet of Things.	10	L3	CO1
	b.	With a neat diagram, illustrate the taxonomy of applications in the M2M context.	10	L3	CO1
Module – 2					
Q.3	a.	List the properties and requirements of M2M applications.	10	L3	CO2
	b.	With a suitable diagram, explain M2M in 3-GPP architecture.	10	L2	CO2
OR					
Q.4	a.	Why the IoT standards of the underlying technologies are important? Mention few areas in which standardization required?	10	L3	CO2
	b.	Write a short note on : i) IETF IPv6 over low power WPAN ii) ZigBee IP (ZIP)	10	L2	CO2
Module – 3					
Q.5	a.	With a neat sketch, describe the interview of Zigbee protocol stack?	10	L2	CO3
	b.	What are capabilities of IPV6 protocol? Write and explain the IPV6 pocket structure.	10	L2	CO3
OR					
Q.6	a.	What is NFC? Explain how the communication between interrogator and NFC device takes place?	10	L2	CO3
	b.	Describe the IPv6 tunneling technique illustrating with the suitable diagram.	10	L2	CO3
Module – 4					
Q.7	a.	Write the domain model of the home intrusion detection system.	10	L2	CO4
	b.	Explain the deployment design of the weather monitoring system.	10	L2	CO4

OR

Q.8	a.	Explain the information model, controls service and service specification for the smart parking system? Illustrate with the suitable diagrams.	10	L2	CO4
	b.	Write a program in python for the controller native service for smart parking.	10	L3	CO4

Module - 5

Q.9	a.	Explain the functions of the key processes of Hadoop with the necessary diagram.	10	L2	CO4
	b.	What is Hadoop YARN? Explain the key components of YARN.	10	L2	CO4

OR

Q.10	a.	How does a Hadoop Map Reduce workflow for batch analysis of IoT data works? Explain.	10	L3	CO4
	b.	What are various high level tools for data analysis supported by apache spark? Discuss the components of spark cluster with a suitable diagram.	10	L3	CO4
