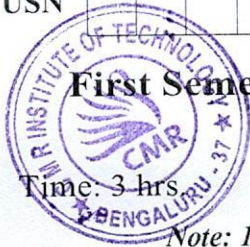


USN



First Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Introduction to Internet of Things

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.	With a neat diagram, explain the network communication between two hosts following the OSI model.	8	L2	CO1
	b.	Explain the IoT planes, various enablers of IoT, and the complex interdependencies among them with a neat diagram.	6	L2	CO1
	c.	Briefly explain various network topologies with suitable diagrams.	6	L2	CO1
OR					
Q.2	a.	With a neat diagram, explain internet protocol suite.	8	L2	CO1
	b.	Explain various networking components of IoT.	6	L2	CO1
	c.	What is IoT? Write the characteristics of IoT system.	6	L2	CO1
Module – 2					
Q.3	a.	With a neat diagram, explain the functional blocks of a typical sensor node in IoT.	10	L2	CO2
	b.	Outline basic differences between transducer, sensor and an actuator.	10	L4	CO2
OR					
Q.4	a.	With a neat diagram, explain working mechanism of actuator.	10	L2	CO2
	b.	Compare mechanical, soft and shape memory based actuators.	10	L4	CO2
Module – 3					
Q.5	a.	With a neat diagram, explain two types of data formats and processing importance in IoT.	10	L2	CO3
	b.	Explain IoT device selection considerations.	10	L2	CO3
OR					
Q.6	a.	Discuss with a neat diagram, event detection using offsite remote and collaborative processing topology.	10	L2	CO3
	b.	Explain different data offloading strategies with locations and decision making.	10	L2	CO3
Module – 4					
Q.7	a.	What is Service Level Agreement (SLA)? Explain its importance and merits used while defining SLA.	10	L2	CO4
	b.	With neat diagram, explain cloud models and features of commercial cloud Amazon Web Services (AWS).	10	L2	CO4
OR					
Q.8	a.	What is virtualization? Explain its advantages from end-user and service provider point of view.	10	L2	CO4
	b.	With a diagram, briefly explain the architecture of leaf Area Index system.	10	L2	CO4
Module – 5					
Q.9	a.	With a neat diagram, explain categories of machine learning and its advantages.	10	L2	CO5
	b.	With the help of a block diagram, explain the components of healthcare IoT.	10	L2	CO5
OR					
Q.10	a.	Discuss the advantages and risks associated with healthcare IoT.	10	L2	CO5
	b.	Explain fog framework of intelligent public safety in vehicular environment FISVER with block diagram.	10	L2	CO5

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