CBCS SCHEME

USN

First Semester B.E./B.Tech. Degree Examination, June/July 2023
Introduction to Internet of Things (IoT)

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.

			M	L	C
Module – 1					
Q.1	a.	What is IOT? Explain the sequence of technological developments leading to the shaping of the modern IOT.	5	L2	CO1
	b.	Explain the different Network Topologies with neat diagram.	5	L2	CO2
	c.	With the help of neat block diagram, explain ISO-OSI Layered Network Model.	10	L2	CO2
OR					
Q.2	a.	Explain various enablers of IOT and the complex interdependencies among them.	10	L2	CO1
	b.	Define: (i) M2M (ii) CPS (iii) IOE (iv) IOP. Brief the differences between IOT & M2M and IOT & WOT.	10	L1	CO1
Module – 2					
Q.3	a.	Define sensors. Classify the various sensors based on power requirement.	8	L1	CO1
	b.	Explain the functional blocks of a typical sensor node in IOT.	8	L2	CO2
	c.	Define Actuators. Explain briefly the actuator types.	4	L1	CO3
OR					
Q.4	a.	What are the major factors influences the choice of sensors in IOT based sensing solutions? Explain briefly.	8	L2	CO2
	b.	Explain the different sensing categories based on the nature of the environment being sensed and the physical sensors.	6	L2	CO1
	c.	Explain the different characteristics of actuators.	6	L2	CO1
Module – 3					
Q.5	a.	Classify the IOT processing topologies and explain them briefly.	10	L2	CO2
	b.	What is processing offloading? Explain the different data offloading methods.	10	L2	CO2
OR					
Q.6	a.	What are the different data formats found in IOT network traffic streams? Explain in brief.	7	L2	CO2
	b.	Briefly explain the different types of data to be processed based on the urgency of processing.	6	L2	CO2
	c.	Explain the deciding factors for selecting a processor for the design of a sensor node in IOT devices.	7	L2	CO2
Module – 4					
Q.7	a.	Define cloud computing. What are the advantages of cloud computing?	6	L1	CO1
	b.	What is virtualization? Explain the advantages of virtualization.	7	L2	CO2
	c.	Explain the different types of virtualization.	7	L2	CO2

		OR			
Q.8	a.	With a neat block diagram, explain the cloud model.	10	L2	CO2
	b.	With a neat diagram, explain the components used in an agricultural IOT.	10	L2	CO2
		Module – 5			
Q.9	a.	With a neat diagram, explain the architecture of vehicular IOT.	6	L2	CO1
	b.	With a neat diagram, explain the components used in vehicular IOT.	8	L2	CO2
	c.	Explain the advantages of IOT in transportation.	6	L2	CO1
		OR			
Q.10	a.	With a neat diagram, explain the components used in Healthcare IOT.	12	L2	CO2
	b.	Explain the advantages and risk of Healthcare IOT.	8	L2	CO1

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