CBCS SCHEME

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BETCK105H/ BETCKH105

First Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024

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.

		Module – 1	M	L	C
Q.1	a.	Discuss the advantages and disadvantages the following network topologies; i) Star ii) Ring iii) Bus iv) Mesh.	8	L2	CO1
	b.	Contrast between the following domains : i) IoT versus M2M ii) IoT versus CPS iii) IoT versus WoT.	12	L2	CO1
		OR			
Q.2	a.	What is ISO – OSI model? Illustrate with a neat diagram networked communication between two hosts following the OSI model.	10	L2	CO1
	b.	Outline the interdependence and reach of IOT over various application domains and networking paradigms.	10	L2	CO1
		Module – 2			
Q.3	a.	Compare between Transducers, sensors, actuators.	6	L2	CO1
	b.	Explain the major factors that influence the choice of sensors in IoT based sensing solutions.	6	L2	CO1
	c.	With neat diagram, explain scalar and multimedia sensing.	8	L2	CO1
		OR			
Q.4	a.	Describe different types of actuators used for IoT applications.	12	L2	CO2
	b.	Explain various characteristics of actuators.	8	L2	CO2
		Module – 3			
Q.5	a.	List out the differences between structured and unstructured data. Outline various data generating and storage sources with a block schematic.	10	L2	CO2
	b.	Explain importance of processing in IoT with suitable examples.	10	L2	CO2
		OR			
Q.6	a.	What are the critical factors to be considered during the design and selection of IoT devices? Explain briefly.	10	L2	CO1
	b.	Discuss the various off load locations and decision making approaches chosen for offloading data in IoT.	10	L2	CO1

		Module – 4			
Q.7	**a.**	Define Virtualization. Discuss advantages of virtualization for end user and Cloud Service Provider (CSP).	**10**	**L1**	**CO2**
	b.	Describe various service models and deployment models in cloud.	**10**	**L2**	**CO2**
		OR			
Q.8	**a.**	Discuss components of agricultural IoT and list out its advantages.	**10**	**L2**	**CO2**
	b.	Design a case study to develop smart irrigation management system.	**10**	**L2**	**CO2**
		Module – 5			
Q.9	**a.**	Describe with a neat diagram, architecture of vehicular IoT.	**10**	**L2**	**CO2**
	b.	Explain advantages and risks associated with health care IoT.	**10**	**L2**	**CO2**
		OR			
Q.10	**a.**	Illustrate with neat diagram, layered architecture of Ambusens.	**10**	**L2**	**CO1**
	b.	Define Machine Learning. Outline different types of machine learning in IoT analytics.	**10**	**L1**	**CO1**

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