

# CBCS SCHEME



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BETCK205H/BETCKH205

## Second Semester B.E./B.Tech. Degree Examination, Dec.2023/Jan.2024 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.	What is IoT? Explain the characteristics of IoT.	06	L2	CO1
	b.	Compare the Star, Mesh, Bus and Ring Network Topologies.	06	L2	CO1
	c.	With a neat diagram, explain the networked communication between two hosts following the TCP/IP suite.	08	L2	CO1
<b>OR</b>					
Q.2	a.	Explain the IoT planes, various enablers of IoT and the complex interdependencies among them with a neat block diagram.	08	L2	CO1
	b.	Explain the four broad categories of networks based on reachability.	08	L2	CO1
	c.	Explain the point to multipoint topology with a neat diagram.	04	L2	CO1
<b>Module – 2</b>					
Q.3	a.	With a neat block diagram, explain the functional blocks of a typical sensor node in IoT.	10	L2	CO2
	b.	With a neat diagram, explain a simple actuation mechanism.	05	L2	CO2
	c.	With a neat diagram, explain Multimedia Sensing Mechanism.	05	L2	CO2
<b>OR</b>					
Q.4	a.	Explain the major factors that influence the choice of sensors in IoT based sensing solutions.	08	L2	CO2
	b.	Explain the desired characteristics of actuators used in IoT.	08	L2	CO2
	c.	Explain Virtual Sensing with a neat diagram.	04	L2	CO2
<b>Module – 3</b>					
Q.5	a.	Explain two types of offsite processing topologies with neat diagrams.	10	L2	CO3
	b.	Contrast between structured and unstructured data. Outline the various data generating and storage sources with a neat block diagram.	10	L2	CO3
<b>OR</b>					
Q.6	a.	Explain IoT Device Design and selection considerations.	08	L2	CO3
	b.	Write short notes on the following : i) Offload Location ii) Offload Decision Making iii) Offloading Considerations	12	L2	CO3
<b>Module – 4</b>					
Q.7	a.	What is virtualization? Explain its advantages from end user and service provider point of view. List the 4 types of virtualization.	10	L2	CO4
	b.	With a neat diagram, explain the architecture of a sensor cloud platform.	10	L2	CO4
<b>OR</b>					
Q.8	a.	Explain the components of Agricultural IoT with a neat diagram.	10	L2	CO4
	b.	With a neat diagram, explain the architecture of Leaf Area Index System.	10	L2	CO4
<b>Module – 5</b>					
Q.9	a.	Briefly explain the components of vehicular IoT. List its advantages.	10	L2	CO5
	b.	Explain the four categories of Machine Learning Algorithms	10	L2	CO5
<b>OR</b>					
Q.10	a.	Explain the components of Healthcare IoT. List the advantages and risks in it.	10	L2	CO5
	b.	Explain the layered architecture of Ambu Sens system with a neat diagram.	10	L2	CO5