

**P.E.S. College of Engineering, Mandya - 571 401***(An Autonomous Institution affiliated to VTU, Belagavi)***First Semester, M. Tech - Computer Science and Engineering (MCSE)****Semester End Examination; April / July - 2021****Internet of Things**

Time: 3 hrs

Max. Marks: 100

Course Outcomes*The Students will be able to:**CO1: Explain the definition and understand the key components that makeup an IoT system.**CO2: Understand where the IoT concepts fit in future trends.**CO3: Compare and contrast the use of devices, gateways and data management in IoT.**CO4: Explain architecture in IoT.**CO5: Identify Real world design Constraints.***Note: I) Answer any FIVE full questions, selecting ONE full question from each unit.****II) Any THREE units will have internal choice and remaining TWO unit questions are compulsory.****III) Each unit carries 20 marks. IV) Missing data, if any, may suitably be assumed.**

Q. No.	UNIT - I	Marks	BLs	CO	PO
1a.	Define IoT. Explain the characteristics of IoT.	10	L2	CO1	PO1
b.	List and explain applications of IoT for environment and agriculture.	10	L2	CO1	PO1
OR					
1d.	Describe IoT enabling technologies briefly.	10	L2	CO1	PO2
e.	What is M2M? What are the differences between IoT and M2M? Explain.	10	L3	CO1	PO3
UNIT - II					
2 a.	Explain functional layers and capabilities of IoT solution in detail.	10	L3	CO2	PO1
b.	Explain main design principles and capabilities for an IoT.	10	L3	CO2	PO2
UNIT - III					
3 a.	Explain different stages of managing M2M data.	10	L3	CO3	PO1
b.	Write a note on Everything As a Service (XaaS).	10	L3	CO3	PO2
OR					
3 d.	Explain basics of IoT device, types and deployment scenarios with an example.	10	L3	CO3	PO3
e.	Explain the analytics architecture in detail with a neat figure.	10	L4	CO3	PO4
UNIT - IV					
4 a.	With a neat figure, illustrate ETSI M2M high level architecture.	10	L3	CO4	PO1
b.	Explain IoT process management functional groups and service organization functional groups in detail.	10	L3	CO4	PO3
OR					
4 d.	Describe IoT functional view briefly.	10	L3	CO4	PO1
e.	Explain IoT reference model with a neat figure.	10	L4	CO4	PO3
UNIT - V					
5 a.	Explain technical design constraints of devices and networks.	10	L4	CO5	PO1
b.	Write a note on building automation system.	10	L2	CO5	PO2