Register Number:……..

KUMARAGURU
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B.E/B.TECH DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

Third Semester

COMMON TO ALL

U18CSR3001**:** IOT Fundamentals and Applications

COURSE OUTCOMES

CO1: Understand the characteristics and working of IOT components.
CO2: Outline the Architectural Overview of IoT.
CO3: Illustrate the working principles of various sensors and actuators.
CO4: Identify and analyze IOT applications in various domains.

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	Define IEEE 802.15.4	CO1	[K_1]
2.	List the communication technologies that are used in IoT.	CO1	[K_2]
3.	Define M2M communication.	CO2	[K_1]
4.	List features of value creation using IoT.	CO2	[K_1]
5.	Write a short note on Light Dependent Resistor.	CO3	[K_1]
6.	Differentiate between sensors and transducer.	CO3	[K_2]
7.	List the different components of IOT.	CO3	[K_1]
8.	Define Home Automation.	CO4	[K_1]
9.	Enumerate the steps an organization can take to protect IoT systems and devices.	CO4	[K_2]
10.	Mention the applications of IoT.	CO4	[K_2]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	Describe Physical and MAC layers Topology and Security of IEEE 802.15.4 and tabulate the protocol stacks utilizing IEEE 802.15.4.	8	CO1	[K_2]
	b)	Demonstrate in detail about IP versions and Optimizing IP for IoT.	8	CO1	[K_2]
12.	a)	Explain in detail IOTWF standardized reference model Architecture.	8	CO2	[K_2]

	b)	Explain the potential and benefits of an IoT oriented approach over M2M by considering a Health band as the real world use case example. Compare the Main characteristics of M2M and IoT.	8	CO2	[K_2]
13.	a)	Discuss about the following in detail, a) Sensors and Actuators. b) Connecting Smart Objects.	8	CO3	[K_2]
	b)	Explain the deployment and operational view, resources, services, virtual entities, users in an IoT system by considering a Parking lot example.	8	CO3	[K_3]
14.	a)	Discuss the design objectives of IoT architecture needed to target a horizontal system of real-world services.	8	CO2	[K_2]
	b)	Discuss in detail the building blocks of IoT and its functionalities with suitable illustration.	8	CO2	[K_2]
15.	a)	Explain the smart home automation system in an IOT.	8	CO3	[K_2]
	b)	Describe the application of Securities and industrial automation in an IoT.	8	CO4	[K_2]
16.	a)	Explain the concept of Industry 4.0.	8	CO4	[K_2]
	b)	What impacts will the Internet of Things (IoT) have on Health Care Sector?	8	CO4	[K_2]

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