KUMARAGURU
college of technology
character is life

B.E DEGREE EXAMINATIONS: APRIL / MAY 2024

(Regulation 2018)

Sixth Semester

DEPARTMENT OF INFORMATION TECHNOLOGY

U18ITT6002: Internet of Things- Architecture and Protocols

COURSE OUTCOMES

CO1: Experiment with various CPU scheduling algorithms with the understanding of operating system concepts

CO2: Apply the methods for process coordination

CO3: Discuss the various protocols for IoT

CO4: Explain the Security constraints behind IoT

CO5: Analyze IoT applications in real time scenario.

CO6: Describe the relationship of IoT with other 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.	What is gateways? Give an example of gateways.	CO1	[K2]
2.	Outline about Everything as a Service.	CO1	[K2]
3.	Differentiate Resource directory and Mirror server directory.	CO2	[K2]
4.	Define IoT Communication model.	CO2	[K2]
5.	What is Bluetooth low energy?	CO3	[K2]
6.	What is Zigbee protocol?	CO3	[K2]
7.	List out the architecture dependencies used in IoT Reference model.	CO4	[K2]
8.	What is a private cloud? Give an example.	CO4	[K2]
9.	List out the features of cloudsim.	CO5	[K2]
10.	In home gardening, during the cultivation the gardener used to check the soil moisture of the fruits and vegetables. Give the short steps that help the gardener to use the smart moisture sensor using IoT.	CO6	[K3]

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

11.	a)	Analyze the functionalities used in the IoT architecture and represent the diagrammatic view of the IoT architecture layers and its functionalities.	8	CO1	[K2]
	b)	With the neat diagram explain the functionality of the cloud of things as an enabler for the new value-added services and applications.	8	CO1	[K2]
12.		Explain the high-level specification functionalities of the ETSI M2M Functional architecture in M2M service capabilities functional groups.	16	CO2	[K2]
13.	a)	With a neat diagram explain about PHY/MAC layer in IEEE 802.3 reference model with its operational functionalities.	10	CO3	[K2]
	b)	Analyze the application use of the z wave protocol and present the diagrammatic view of the z-wave protocol communication for a smart home environment.	6	CO3	[K3]
14.		What is Common Service Entity (CSE) in service layer? With an example explain the One M2M architecture approach for the common service layer capabilities.	16	CO4	[K2]
15.		Explain the importance of the Quantitative analysis for the collected data. With an example explain the statistical approach in the methods of statistical models, Analysis of variance and Data dispersion.	16	CO5	[K3]
16.		How the IoT technology can be used for the smart city environment development? With a neat diagram explain the AI in IoT decision making, Data fusion in autonomous vehicles and the information sensing in the smart parking.	16	CO6	[K3]

****