11 JAN 2023

Reg. No.												

Question Paper Code	11615

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022

Fifth Semester

Electrical and Electronics Engineering

20EEEL509 - INTERNET OF THINGS FOR ELECTRICAL ENGINEERING

(Regulations 2020)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level,CO
1.	List two characteristics of IoT.	*2,K1,CO1*
2.	Compare between CoAP-MQ and MQTT features.	*2,K2,CO1*
3.	What does data acquisition mean?	*2,K1,CO2*
4.	How does SQL differ from NOSQL?	*2,K1,CO2*
5.	What is MEMS?	*2,K1,CO3*
6.	What is LIDAR?	*2,K1,CO3*
7.	How do you define message privacy?	*2,K1,CO4*
8.	Why does security tomography enable fast detection in case of complex set of subsystems or networks?	*2,K1,CO4*
9.	What is the difference between microprocessor and microcontroller?	*2,K1,CO5*
10.	Illustrate sentiment analysis using IoT.	*2,K2,CO6*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	(i) Explain the basic components of IoT with examples.	*7,K2,CO1*
		(ii) Explain the architecture of IoT.	*6,K2,CO1*
		OR	
	b)	(i) Illustrate and show how a Bluetooth network will connect for Internet applications and services.	*7,K2,CO1*
		(ii) Construct architecture for bidirectional data exchanges between the CoAP client and Web Socket.	*6,K3,CO1*
12.	a)	Show in-memory row format and column format database features and usages.	*13,K2,CO2*
		OR	
	b)	Explain the deployment models for cloud services for IoT applications.	*13,K2,CO2*

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

13. a) What are the data-link, network, security and application layer protocols used in the WSNs? *13,K2,CO3*

OR

b) Demonstrate usages of Raspberry Pi and Beagle Bone boards for IoT applications. *13,K2,CO3*

14. a) Identify the new business innovations possible using IoT devices data, M2M data and predictive analytics. *13,K3,CO4*

OR

b) An Arduino board is attached with Zig Bee, GPS, Ethernet shields and a location tracker is developed to display location information. Experiment with the complexity level for the design. *13,K3,CO4*

15. a) Explain the role of IoT technology for smart transport with suitable diagram. *13,K[illegible]O5*

OR

b) Illustrate the process of data security using image steganography with IoT. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Explain the role of IoT for Home Automation System. *15,K2,CO6*

OR

b) Explain the impact of IoT for Industry 4.0. *15,K2,CO6*