Reg. No.												

Question Paper Code	11874

14 JUN 2023

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Sixth Semester

Computer Science and Business Systems

20CBEL607 - Internet of Things with Laboratory

(Regulations 2020)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	Differentiate Consumer IoT vs Industrial internet.	*2,K2,CO1*
2.	What are the challenges and risks associated with IoT?	*2,K2,CO1*
3.	Express the problems facing in IoT systems.	*2,K1,CO2*
4.	List out the data ingestion tools.	*2,K1,CO2*
5.	Differentiate Sensors and Transducers.	*2,K2,CO3*
6.	Label the basic components of Data Acquisition Systems.	*2,K1,CO3*
7.	Compare Zigbee with Bluetooth.	*2,K2,CO4*
8.	Define web service and its types.	*2,K1,CO4*
9.	State the applications of time series data.	*2,K1,CO5*
10.	Define anomaly and outlier.	*2,K1,CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Write the applications of IoT in detail.	*13,K2,CO1*
		OR	
	b)	Discuss how IoT is effectively used in Automotive industries.	*13,K2,CO1*
12.	a)	Explain IoT reference architecture in detail.	*13,K2,CO2*
		OR	
	b)	Discuss about Data Stream Processing in detail.	*13,K2,CO2*
13.	a)	Explain in detail about industrial control systems and its functions.	*13,K3,CO3*
		OR	
	b)	Demonstrate the benefits and applications of data acquisition system with real time example.	*13,K3,CO3*
14.	a)	Sketch TCP/IP and UDP/IP socket.	*13,K2,CO4*
		OR	
	b)	Illustrate how messages are encoded in web sockets in cloud. Write an example.	*13,K3,CO4*

15. a) Discuss Data summarization and sketching in detail. 13,K2,CO5

OR

b) Illustrate time series data in one IoT application. Explain. 13,K3,CO5

PART - C (1 × 15 = 15 Marks)

16. a) (i) Map ISO 7 layers with IoT architecture 7,K3,CO4

(ii) Implement an application of time series data processing with an example 8,K3,CO5

OR

b) (i) Describe an application how IoT is applied in cloud applications. 7,K3,CO4

(ii) Discuss the working principle of time series data. 8,K3,CO5