

CBCS SCHEME

18CS81

Eighth Semester B.E. Degree Examination, Jan./Feb. 2023 Internet of Things

Time: 3 hrs. Max. Marks: 100

	W16A_1V	Idiks. 100
Λ	iote: Answer any FIVE full questions, choosing ONE full question from each mo	odule.
	Modulo 1	
n		(06 Marks)
b	List the difference between Operation Technology (OT) and Information Technology	
		(06 Marks)
6		(08 Marks)
	infrant the main for racinectate with heat diagram.	(00 MATES)
	OR	
a.		(05 Marks)
b.		(08 Marks)
	and Fog computing characteristics.	(07 Marks)
		(0) (114141)
	Module-2	
25.	The state of the s	(05 Marks)
b.		
		(08 Marks)
C.	What is actuator and smart object? Explain the different characteristics of smart of	bject.
		(07 Marks)
	The state of the s	
2		
		(10 Marks)
D.	Define LokaWAN. Explain LokaWAN layers with near diagram.	(10 Marks)
20		22022000
		(06 Marks)
		(08 Marks)
0.1	Define RFL and list the different RFL routing metrics and constraints of RFC 655	(06 Marks)
		(no Marks)
	OR	
a.		(08 Marks)
ь.		(08 Marks)
		(04 Marks)
1450		To a transfer of
	a. b. c. a. b. c. a. b. c. a. b. c.	Note: Answer any FIVE full questions, choosing ONE full question from each mode. Module-1 a. What is loT? Discuss the evolutionary phases of the internet with neat diagram. b. List the difference between Operation Technology (OT) and Information Technology with their challenges. c. Explain the M2M IoT Architecture with neat diagram. OR a. Discuss the significant challenges and problems facing by IoT. b. With neat diagram explain the simplified IoT architecture. c. Describe the Fog layer in the IoT data management and computer stack with neand Fog computing characteristics. Module-2 a. Define sensors. List the different categories of the sensors. b. Describe the different sensor types with an example. (Consider any 8 sensor type) c. What is actuator and smart object? Explain the different characteristics of smart of OR a. With neat diagram explain ZigBee IP protocol stack. b. Define LoRaWAN. Explain LoRaWAN layers with neat diagram. Module-3 a. Explain any six key advantages of the IP suite for IoT. b. With neat diagram explain 6 LoWPAN with and without header compression. c. Define RPL and list the different RPL routing metrics and constraints of RFC 655. OR a. Describe CoAP message format with neat diagram.

Module-4

7 a. Explain in detail how the IoT data is categorized.

b. With neat diagram explain the edge analytics processing unit with its functions.

c. Explain MPP Databases with its architecture.

(06 Marks)

(06 Marks)

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		OR OR	
8		Explain the Lambda architecture with neat diagram.	(08 Marks)
0	b.	With neat diagram explain the OCTAVE risk assessment frameworks.	(08 Marks) (04 Marks)
	c.	List the advantages of FNF.	(04 (station)
		Module-5	
		Write an Arduino program to implement the traffic light simulation for pedestri	ans.
9	В.		
	Ь.	With neat diagram explain the parts of Raspberry Pi board.	(08 Marks) (04 Marks)
	C,	Write a Raspberry Pi program to implement blinking an LED.	(64 MINIMA)
		OR	
		and the state of t	(08 Marks)
10	B.	With neat diagram explain the role of the cloud for smart city applications.	(10 Marks)
	b. c.	Write a short note on Arduino.	(02 Marks)
		4.5	