National Institute of Technology Silchar
End-Semester (UG) Examinations, May 2023

Subject Code CS 442,
Semester: 8th,
Duration: Two Hour,

Subject: Wireless sensor network
Department: CSE
Total Marks: 50

Answer any 5 (five) questions.

		Marks	CO
1. (a)	Discuss different categories of traffic pattern and MAC access methods supported by IEEE 802.11 MAC layer.	3	CO-1
	different categories of services specified in IEEE 802.11	3	CO-1
	4 different addresses in IEEE 802.11 frame are used in different network scenario.	4	CO-2
	...ooth Physical layer specifications?	3	CO-2
	different types of links supported by Bluetooth for ...ver a channel? Show the difference among the above in a ...?	3	CO-2
	...ansition diagram show the different possible states of a ...ce? Briefly discuss about each states?	4	CO-1
	...es played by various devices in a typical ZigBce mesh network?	3	CO-1
3. (a)			
(b)	With an appropriate diagram show the structure of IEEE 802.15.4 Superframe specifying its different segments?	3	CO-1
(c)	Discuss with suitable example different traffic types supported by ZigBee? What are the different MAC frame types used in ZigBee?	4	CO-1
4. (a)	Compare the following standards with respect to Power profile, Number of Nodes supported, Latency, Range & Data Rate: (i) IEEE 802.11b (ii) Bluetooth (iii) ZigBee		CO-3
(b)	Discuss the various causes of energy waste in WSN from a data link layer perspective?	5	CO-3
5. (a)	Explain how T-MAC protocol improves the performance of S-MAC protocol? What is Early Sleeping Problem and How it is resolved?	5	CO-3
(b)	Briefly discuss the tasks done in one cycle of operation in Traffic-Adaptive Medium Access Protocol (TRAMA)?	5	CO-2
6. (a)	Discuss the difference between Directed Diffusion and SPIN protocol?	5	CO-2
(b)	How cluster head is elected in LEACH protocol? Briefly discuss the operations performed in different phases of LEACH protocol?	5	CO-3

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