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Reg. No.												

Question Paper Code	11789

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

Seventh Semester

Electronics and Communication Engineering

EC8702 – ADHOC AND WIRELESS SENSOR NETWORKS

(Regulations 2017)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level,CO
1.	How to improve the throughput of adhoc network ?	*2,K1, CO1*
2.	Outline the hidden vs exposed terminal problem in adhoc networks.	*2,K1, CO1*
3.	State any two applications of wireless sensor networks.	*2,K2, CO2*
4.	Differentiate between active and passive sensors.	*2,K2, CO2*
5.	Draw the super-frame structure of IEEE 802.15.4.	*2,K1, CO3*
6.	What is data dissemination in a wireless sensor network?	*2,K1, CO3*
7.	Define a black hole attack.	*2,K1, CO4*
8.	Differentiate link layer jamming and physical layer jamming.	*2,K2, CO4*
9.	Present an outline of berkeley motes.	*2,K2, CO5*
10.	Name any two node-level simulators for wireless sensor networks.	*2,K2, CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Assess in detail about routing protocols with efficient flooding mechanisms.	*13, K2,CO1*
		OR	
	b)	Draw the schematic diagram of an ad hoc wireless Internet and discuss the issues to be considered for the successful ad hoc wireless Internet.	*13, K2,CO1*
12.	a)	Present an elaborate note on the energy consumption rate for sensors in a wireless sensor network.	*13, K2,CO2*
		OR	
	b)	Describe the important features of DSDV routing protocol in detail.	*13, K2,CO2*
13.	a)	Illustrate the RF end of a transceiver and outline the behaviour of operational states.	*13, K2,CO3*

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

OR

b) Enumerate the energy consumption during the transmission and reception of a transceiver with supporting equations. *13, K2,CO3*

14. a) Present an outline of SPINS, security protocol for sensor networks. *13, K2,CO4*

OR

b) Describe the features of IEEE 802.15.4 MAC protocol with GTS management. *13, K2,CO4*

15. a) Examine about the network layer attacks in sensor networks. *13, K2,CO5*

OR

b) Identify the key distribution scheme in wireless sensor networks. *13, K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Describe the features of Tiny OS and CONTIKI OS for wireless sensor networks.0 *15,K3,CO6*

OR

b) Elaborate the characteristics of embedded sensor nodes family with the help of MICA note architecture. *15,K3,CO6*