Reg. No. | | | | | | | | | | | |

B.E / B.TECH. DEGREE EXAMINATION, MAY 2023
Eighth-Semester
CS18012 – MOBILE ADHOC NETWORKS
(Computer Science and Engineering)
(Regulation 2018/2018A)

TIME: 3 HOURS   **MAX. MARKS: 100**

CO 1	Explore types of wireless networks
CO 2	Learn the different mechanisms in MAC
CO 3	Be familiar with wireless routing
CO 4	Security aspects of wireless
CO 5	Be familiar with energy management

PART- A (10 x 2 = 20 Marks)
(Answer all Questions)

		CO	RBT LEVEL
1.	In what ways wireless networks are different from ad hoc networks.	1	2
2.	Define scalability.	1	1
3.	List the advantages of MAC protocols using directional antennas for transmissions.	2	1
4.	List the issues of designing a MAC protocol for ad hoc networks.	2	1
5.	What is called hybrid routing?	3	1
6.	What are merits of Location Aided Routing?	3	1
7.	Write the various approaches in key management.	4	2
8.	Illustrate with an example for passive attack in ad hoc networks.	4	2
9.	Outline the unique characteristics that pose several difficulties in provisioning QoS.	5	2
10.	What is BAMAC(K) protocol?	5	2

PART- B (5 x 14 = 70 Marks)

		Marks	CO	RBT LEVEL
11. (a)	Outline the design challenges in mobile ad hoc networks and wireless sensor network.	(14)	1	3
	(OR)			
(b)	Discuss the major issues and challenges that need to considered when an ad hoc wireless system is to be designed.	(14)	1	3

12. (a)	Classify MAC protocols for ad hoc wireless networks and explain in detail about any one of the MAC protocols.	**(14)**	**2**	**4**
	(OR)			
(b)	Explain in detail about DBTMA protocol and D-MAC protocol.	**(14)**	**2**	**4**
13. (a)	Explain in detail about the ad hoc wireless network routing protocols that are based on the routing information update mechanism.	**(14)**	**3**	**4**
	(OR)			
(b)	Explain in detail about the architectural framework of an ad hoc multicast protocol.	**(14)**	**3**	**4**
14. (a)	Identify the requirements that should be met by a security protocol for ad hoc wireless networks and also identify how the specified requirements causes difficulty in providing the security in ad hoc wireless networks.	**(14)**	**4**	**3**
	(OR)			
(b)	Build the classification tree for the different type of attacks in ad hoc wireless networks and give a brief description of the attacks pertaining to the network layer in the network protocol stack.	**(14)**	**4**	**3**
15. (a)	Explain in detail about energy management schemes in ad hoc wireless networks.	**(14)**	**5**	**4**
	(OR)			
(b)	Explain the QoS solutions in ad hoc wireless networks.	**(14)**	**5**	**4**

PART- C (1 x 10 = 10 Marks)
(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	Justify your answer that which protocol is more bandwidth efficient, RTMAC or MACA/PR.	**(10)**	**2**	**5**

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