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Code: 13A05801 **R13**

B.Tech IV Year II Semester (R13) Regular & Supplementary Examinations April 2018

MOBILE COMPUTING

(Common to CSE and IT)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) Give an example situation where infrastructure network is preferred to ad hoc network.
(b) What is the probability that two HIPERLANs will have the same ID?
(c) Why is power management important for ad hoc wireless networks?
(d) What are the advantages of reservation-based MAC protocols over contention based MAC protocols?
(e) Is a table-driven routing protocol suitable for high-mobility environments? Why?
(f) Find out the probability of a path break for an eight-hop path, given that the probability of a link break is 0.2.
(g) What are the limitations of the IEEE 802.11 MAC protocol that prevent it from supporting QoS traffic?
(h) Suggest a few metrics that can be associated with battery-aware routing techniques.
(i) Distinguish between ad hoc wireless networks and sensor networks.
(j) List the applications of sensor networks.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Describe how wireless networks can replace wired networks in order to improve the efficiency.

OR

3 Explain Bluetooth protocol stack.

UNIT – II

4 Identify and elaborate some of the important issues in pricing for multi-hop wireless communication.

OR

5 Describe a method used in alleviating the hidden terminal and exposed terminal problems at the MAC layer.

UNIT – III

6 Describe CGSR protocol in detail.

OR

7 Discuss the effects of multiple breaks on a single path at the TCP-F sender.

UNIT – IV

8 Explain how a source node determines how many number of tickets (green and yellow tickets) are to be issued for a session in delay constrained TBP protocol.

OR

9 Prove that the localized power-efficient routing algorithm is loop-free.

UNIT – V

10 How does the hybrid usage of TDMA and FDMA minimize energy consumption? Explain.

OR

11 Describe the Sybil attack and the Sinkhole attack on sensor networks.

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