

- (b) What do you understand by MANET ? Describe some real life scenarios where it can be used ?
- (c) Describe the TORA algorithm and explain route creation and route maintenance in detail with suitable example.

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0156

Roll No.

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B. Tech.

(SEM. VIII) THEORY EXAMINATION 2010-11

MOBILE COMPUTING

Time : 3 Hours

Total Marks : 100

Note : Attempt all questions, each question carries equal marks.

1. Attempt any **four** parts of the following : (5×4=20)
- (a) Explain the word " mobile computing" and also give any suitable live example with merit of Mobile computing ?
 - (b) Draw a diagram showing the positioning of wireless networks vis a vis wired networks ? Why is a wired network usually part of the wireless infrastructure ?
 - (c) With neat sketch, explain architecture of 802.11 LAN. Also explain its MAC logic.
 - (d) How the power is controlled in a cellular system ? Explain the difference between open-loop and closed loop.
 - (e) Explain the architecture of Bluetooth system. What will be the impact on piconet if Bluetooth devices are connected to mobile units ? Explain.

- (f) What are the unconventional applications of wireless networks ?

2. Attempt any **four** parts of the following : (5×4=20)

- (a) Explain the issues and challenges of data management in third generation mobile standards ?
- (b) Give an overview of GPRS network ? How does GPRS provides a variety of data rates ?
- (c) Compare SDMA, TDMA, FDMA and CDMA in terms of transmission technique, signal separation, advantages, disadvantages and applications ?
- (d) What are the basic differences between wireless WANs and wireless LANs ? And what are the common features ?
- (e) What are the pros and cons of having different size cells for wireless networking ?
- (f) List and define the entities of mobile IP and describe data transfer from a mobile node to a fixed node and vice-versa.

3. Attempt any **two** parts of the following : (10×2=20)

- (a) Explain the concept of "Frequency Reuse" as applied to cellular communications ? What are the advantages of this approach ? How does it increase the capacity of the system ?

- (b) Discuss the concept of index replication. What purpose it serves in mobile computing Environment ?

(c) Explain any **two** of the following :

- (i) Energy efficient indexing on Air
- (ii) Clustering Algorithm
- (iii) Pointer forwarding strategies.

4. Attempt any **two** parts of the following : (10×2=20)

- (a) Discuss the challenges in transaction processing. What are the counter measures to security threat in mobile computing environment ?
- (b) What are the different fault tolerance issues involved in mobile agent computing ? What are monitoring process ?
- (c) How data transmission is done from source to destination in secure manner ? Give any example of general authentication and privacy procedure for D-AMPS and also sketch the diagram suitable to it.

5. Attempt any **two** parts of the following : (10×2=20)

(a) Explain with example :

- (i) Proactive routing and reactive routing protocols.
- (ii) Static and dynamic routing
- (iii) Source routing.