

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

**PAPER ID : 2873**

Roll No.

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**B.Tech.**

(SEM. VIII) EVEN THEORY EXAMINATION 2012-13

**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 suitable live example with merits of Mobile Computing.
  - (b) Compare the three generations of wireless telephone systems on the basis of features, technology used and applications.
  - (c) Why did we choose hexagonal shape for cells in cellular phone system ? What is frequency reuse ?
  - (d) What is General Packet Radio Service (GPRS) ? Describe its architecture in detail.
  - (e) What are the advantages and disadvantages of using a wireless transmission as compared to a fibre or wire transmission ?
  - (f) Describe various multiplexing techniques. Explain why a given bandwidth is used most efficiently in CDMA.
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) With neat sketch, explain architecture of 802.11 LAN and explain its MAC logic.
  - (c) What is Bluetooth ? Define technical specifications of Bluetooth. Describe the Bluetooth stack operation.
  - (d) What are the basic differences between wireless WAN and wireless LAN ? Discuss the common features of these.
  - (e) List and define the entities of mobile IP and describe data transfer from a mobile node to a fixed node and vice-versa.
  - (f) How does mobility affect data replicating on mobile platform ? Explain.
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) Describe the different data management issues related to mobile computing.
  - (c) “CSMA/CD is not a suitable protocol for wireless LAN”. Give reasons in favour of or against the statement.
4. Attempt any **two** parts of the following : **(10×2=20)**
- (a) Explain the various security threats during data transfer in mobile communication and give suitable example of authentication and privacy preceding for mobile computing.
  - (b) Discuss the requirements for the design of Mobile agent systems.
  - (c) Discuss various issues which are related to transaction processing in mobile computing.

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.
  - (b) What are the characteristics of MANET ? Explain the process of path discovery and path maintenance in DSR routing protocols.
  - (c) Describe the working of AODV routing protocol in MANETs. Describe how routing table will be maintained in AODV routing protocol.