

(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.