

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

**PAPER ID : 110857** Roll No. 

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**B.Tech.**

(SEM. VIII) THEORY EXAMINATION 2013-14

**MOBILE COMPUTING**

*Time : 3 Hours*

*Total Marks : 100*

**Note :-** Attempt all questions. All questions carry equal marks.

1. Attempt any **four** parts : **(4×5=20)**
- (a) What are the various characteristics of mobile computing environment ? Discuss challenges being faced to support mobile computing.
  - (b) What do you mean by Handover ? Explain the reasons why the handover occurs and also describe the procedure of Handover.
  - (c) Compare different generations of the Wireless Communication.
  - (d) What do you mean by cell in cellular concept and why the cell of cellular architecture is hexagon ?
  - (e) Write down the issues of mobile computing.
  - (f) In context to cellular networks, explain the following terms :
    - (a) GPRS
    - (b) LOCATION MANAGEMENT with HLR-VLR.

2. Attempt any four parts : (4×5=20)

- (a) What is Bluetooth ? What are the functions of different layer Bluetooth protocol stack ? Also discuss the concept of Bluetooth profile.
- (b) Discuss the basic principle of WAP protocol architecture. Write down the applications of WAP.
- (c) "CSMA/CD is not suitable protocol for wireless LAN". Give reasons in favour of or against the statement ?
- (d) Draw and define 802.11 protocol stack regarding the following points :
  - (i) Physical layer
  - (ii) Mac sub layer protocol
  - (iii) Frame Structure.
- (e) What kind of problem may arise, if TCP is implemented over wireless networks ? Explain.
- (f) List the entities of Mobile IP and describe data transfer from a mobile node to a fixed node and vice-versa. Why and Where is encapsulation needed ?

3. Attempt any two parts : (2×10=20)

- (a) How does mobility affect data replication when we consider replicating on mobile platform ?
- (b) What is multicenter architecture ? Discuss any one algorithm required to partition the network into several clusters.

- (c) What do you mean by CODA file system and also explain the clients in CODA ? How are Disconnected Operations performed in CODA ?

4. Attempt any two parts : (2×10=20)

- (a) Discuss the schemes of mobile transaction management. List out various issues concerned to transaction management.
- (b) Describe Fault Tolerance in mobile computing environment in detail.
- (c) What do you mean by online transaction processing ? Explain various mobile transaction models.

5. Attempt any two parts : (2×10=20)

- (a) Why is routing in adhoc network complicated, what are special challenges ? Give some examples of adhoc network.
- (b) Describe any two of the following :
  - (i) DSDV
  - (ii) DSR
  - (iii) DVR.
- (c) Name the main differences between Adhoc network and other network. What advantages do Adhoc networks offer ? Explain in detail by giving suitable example.