

(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 multicluster 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.