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M.C.A.

THEORY EXAMINATION (SEM-IV) 2016-17
MOBILE COMPUTING

Time : 3 Hours

Max. Marks : 100

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.

SECTION – A

1. Explain the following:

10 x 2 = 20

- (a) What are the four types of handover available in GSM?
- (b) Specify the qualities of good code in CDMA.
- (c) Mention the Wireless MAC protocols issues.
- (d) List the low power states of Bluetooth
- (e) How Data Management is done in MOBILE COMPUTING?
- (f) What is adaptive clustering?
- (g) How data transfer is done between better server and client in HTTP protocol? Explain in brief.
- (h) Define transaction processing in wireless mobile networks.
- (i) List out some fundamental differences between wired networks and Ad-hoc wireless networks related to routing.
- (j) Explain destination sequence distance vector routing.

SECTION – B

2. Attempt any five parts of the following questions:

5 x 10 = 50

- (a) Explain the operations of CDMA with a timing diagram.
- (b) If a total of 33 MHz of bandwidth is allocated to a particular cellular system which uses two 25 KHz Simplex channels to provide full Duplex voice. Compute the number of channels available per cell if the system uses:
 - (i) 4 cell reuse
 - (ii) 7 cell reuse
- (c) Explain the WAP architecture with neat diagram.
- (d) How does a new Bluetooth device discover a Bluetooth network? Describe the security principles in Bluetooth.
- (e) What are the basic requirements for Location Management in wireless ATM? Also explain the Registration and location updation and connection set up for a wireless Mobile Terminal in a foreign N/W.
- (f) Mention about clustering. How clustering is used for mobile wireless networks? Discuss.
- (g) Brief about security issues related to mobile agent based computing environment.
- (h) Explain briefly about AODV routing protocols with their advantages.

SECTION – C

Attempt any two parts of the following questions:

2 x 15 = 30

- 3 List the main differences between Adhoc networks and other networks. Mention the advantages over other networks. Discuss briefly with example.
- 4 Discuss about mobile agent computing security and fault tolerance.
- 5 Explain with examples.
 - (i) Proactive routing and reactive routing protocols
 - (ii) Source routing
 - (iii) Static and dynamic routing.