

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

Paper ID : 214428

Roll No.

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M.C.A.

Theory Examination (Semester-IV) 2015-16

MOBILE COMPUTING

Time : 3 Hours

Max. Marks : 100

Section-A

**Note: Attempt all the parts. All parts carry equal marks. Write
answer of each part in short. (10×2=20)**

- Q1.**
- (a) Explain mobile computing and its standards.
 - (b) Describe various data management issues related to mobile computing.
 - (c) Define encapsulation. List the types of encapsulation
 - (d) What are the four types of handover available in GSM?
 - (e) What are the three types of switching methods?
 - (f) State the layers in WAP architecture.

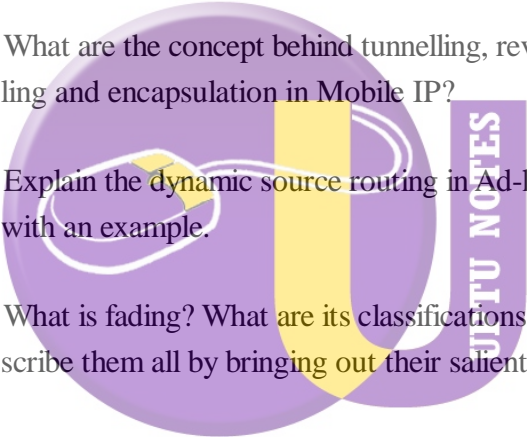
- (g) Describe cellular systems. Explain 3 cell and 7 cell clustering.
- (h) What are the parameters considered for defining QoS in GPRS technology?
- (i) What are the functions of MSC in network and switching subsystem?
- (j) State any 4 features of IPv6

Section-B

Q2. Attempt any 5 questions from this section.

(5×10=50)

- (a) A certain city has an area of 1300 square miles and is covered by a cellular system using a seven cell reuse pattern. Each cell has a radius of 4 miles and the city has 40 MHz spectrum with a full duplex channel bandwidth of 60KHz. Find:
 - (i) The number of cells in the service area.
 - (ii) The number of channels per cell.
 - (iii) Total number of subscribers that can be served

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- (b) What s multiplexing? Explain the different types of multiplexing techniques and state their merits and demerits.
- (c) Explain the following with respect to Bluetooth; services offered; Bluetooth packet format; security and risk management.
- (d) Explain in detail about Wireless Application Protocol and its architecture.
- (e) What are the concept behind tunnelling, reverse tunnelling and encapsulation in Mobile IP?
- (f) Explain the dynamic source routing in Ad-hoc network with an example.
- (g) What is fading? What are its classifications? Briefly describe them all by bringing out their salient feature.
- (h) Explain the following term with respect to mobile computing:
- i. Query processing.
 - ii. Caching for data management.

Section-C

Note: Attempt any 2 questions from this section.

(2×15=30)

Q3. List some routing protocols of ad-hoc networks. Compare the DSDV method of discovering and managing route with DSR method.

Q4. Describe the following:

i. DSDV

ii. DSR

iii. AODV

Q5. How does mobility affect data replication when we consider replicating on mobile platforms? Discuss different possible replicating schemes.