(Following Paper ID and Roll No. to be filled in your Answer Books)	
Paper ID : 214428	Roll No. ☐☐☐☐☐☐☐☐☐☐

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

(2)

(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.