M.Tech(ECE) 2nd Semester Examination
June 2014
Wireless and Mobile Communication
Subject Code: ECL-508

Time Allowed: 03 hours.          Maximum Marks: 100

Before answering the question paper the candidate should ensure that they have been supplied the correct question paper. Complaints in this regard, if any, shall not be entertained after the examination.

Note: First question is compulsory. Attempt two questions from each section A and B. All question carry equal marks.

Q1 Write the short notes on the following:
   a) Antenna parameters
   b) 4th generation of wireless
   c) Cellular IP
   d) Packet switched protocol
   e) Tight coupling integration.  [5 x 4 = 20]

SECTION-A

Q2(a) Why frequency reuse concept is used in cellular communication? How does it help to increase the system capacity?  [10]
   (b) Describe the cell sectoring and microcell zone concept. Also justify its need.  [10]

Q3(a) Discuss the Clark’s Model for multipath fading channels.  [10]
   (b) With the help of neat diagram, explain GSM architecture and its protocol.  [10]

Q4(a) What do you understand by mobility management in UMTS network?  [10]
   (b) Discuss the UMTS logical and transport channels.  [10]

SECTION-B

Q5(a) What is mobile IP? Explain, how does data transfer from a mobile node to a fixed node?  [10]
   (b) Why mobile IP is required in mobile communication? Make a list of its advantages.  [10]

Q6(a) Describe the various states of a TCP connection. How does selective transmission improve the transmission efficiency?  [10]
   (b) Discuss the operation of GTP Tunnel.  [10]

Q7(a) Describe the reasons for development of wireless ATM. How it is differ from internet technology?  [10]
   (b) Why mobile ad-hoc network is being used? Give its applications.  [10]