**UPES**

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2017**
**Program: B. Tech CSE+Cyberlaw**
**Semester – VII**
**Subject (Course): Mobile Computing**          **Max. Marks  : 100**
**Course Code: CSEG402**                         **Duration    : 3 Hrs**
**No. of page/s: 2**

**Section A: Attempt all the questions. [4×5=20]**

Q1. Explain what is reverse tunneling in context to mobile computing.

Q2. Assume a network based application which wants to transmit data and have to make a choice over TCP protocol and UDP protocol, based on the facilities that each of these transport layers provide suggest appropriate protocol.

Q3. Explain the communication asymmetry in a mobile communication network.

Q4. How a MANET does differs from a wireless LAN and mobile communication network.

**Section B: Attempt all the questions. [4 ×10 =40]**

Q5. Discuss in detail medium access control motivation in wireless networks.

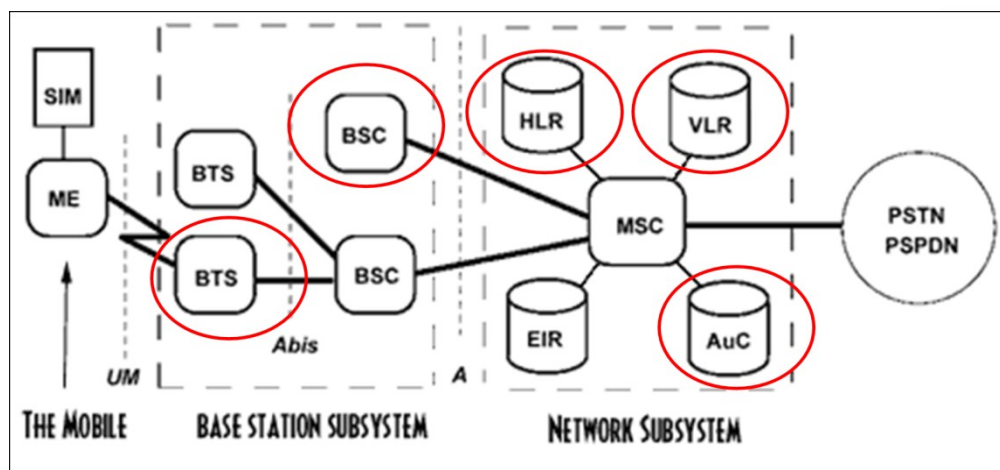Q6. Explain the components circled in the following figure.



Figure 1

Q7. Discuss the need of mobile IP. Also explain the various components that constitute mobile IP terminology.

Q8.In context to traditional routing discuss distance vector and link state algorithms. State why traditional routing cannot handle routing in MANET.

**Section C: Attempt all the questions. [2×20 =40]**

Q9. Evaluate the implications of mobility on Network layer and summarize the available solution/solutions. Using neatly drawn figure illustrate Mobile IP operations.

Q10. Assess advantages of using MANET. In context to routing in MANET explain the following routing protocols in detail.

   a. Dynamic Source Routing
   b. Destination Sequenced Distance Vector
   c. Zone Routing Protocol

**OR**

Q11. What are the various database design issues that occur due to mobility? Explain in detail the solutions using which database design issues are addressed.

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2017**

Program: B. Tech CSE+Cyberlaw
Semester – VII
Subject (Course): Mobile Computing          Max. Marks  : 100
Course Code: CSEG402                          Duration     : 3 Hrs
No. of page/s: 2

**Section A: Attempt all the questions. [4×5=20]**

Q1. Explain context aware computing with respect to mobile computing.

Q2. Discuss how can certain mobile communication applications benefit from TCP connection setup and release operations.

Q3. List out mobile computing application limitations.

Q4. Categorize the various data delivery mechanisms.

**Section B: Attempt all the questions. [4 ×10 =40]**

Q5. Aiding your discussion with neat figures, illustrate single tier database architecture and multitier database architecture.  Illustrate various components of caching mechanisms.

Q6. Justify the need of Wireless Application Protocol (WAP). Explain the architecture of WAP with the help of a neatly drawn diagram.

Q7. Explain importance of power aware computing and summarize methods that can be deployed to make mobile computing power aware.

Q8. List down the various properties of MANET.

**Section C: Attempt all the questions. [2×20 =40]**

Q9. Illustrate the implications of mobility on the following OSI layers and give details of the solutions using which the challenges imposed by mobility are addressed.

   a.  Transport Layer
   b.  Network Layer

**OR**

Q10. What are the various database design issues that occur due to mobility? Explain in detail the solutions using which database design issues are addressed.

Q11. Assess advantages of using MANET. In context to routing in MANET explain the following routing protocols in detail.

a. Dynamic Source Routing
b. Destination Sequenced Distance Vector
c. Zone Routing Protocol