ST. ANN'S COLLEGE OF ENGINEERING &TECHNOLOGY: CHIRALA

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

FREQENTLY ASKED QUESTIONS

SUBJECT: MOBILE COMPUTING **YEAR: 2016-17**

UNIT-1

1. Outline the limitations of mobile devices.
2. With the help of a diagram, explain system architecture of GSM.
3. Explain the role of HLR entity of a GSM network.
4. Show with a diagram the steps involved in a mobile terminated call (a station calling a mobile station) in GSM.
5. Give reasons for a handover in GSM and the problems associated with it. Discuss the typical steps for handover are and what types of handover can occur?
6. Explain the role of SIM, HLR, and VLR in GSM network.
7. Explain about GPRS system in detail.
8. Give reasons for a handover in GSM and the problems associated with it.
9. With neat sketch of GSM architecture, discuss the key features of GSM systems.
10. What are the functions of authentication and encryption in GSM?
11. Where and when can collisions occur while accessing the GSM system? Compare possible collisions caused by data transmission in standard GSM, HSCSD and GPRS.
12. Explain the applications of mobile computing.

UNIT-2

1. Describe the advantages and disadvantages of WLAN.

2. (a) Compare SDMA, FDMA, TDMA and CDMA.

(b) How can we avoid hidden and exposed terminal problems? Explain.

3. What is the reason for the failure of CSMA/CD in wireless networks?

4 (a) Explain classical Aloha and slotted Aloha with a neat sketch.

(b) Explain about CDMA

5. Describe several versions in CSMA.

6. a) Compare the features of SDMA, FDMA, TDMA, and CDMA with their advantages and disadvantages.

b) Draw and discuss the protocol architecture of IEEE 802.11.

7. Distinguish between FDMA and TDMA.

8. a) Explain in detail about IEEE 802.11 MAC Data frames.

b) Discuss in detail about CDMA.

9. Explain in detail the various multiple access techniques with neat diagram.

UNIT-3

1.Discuss the concept of tunneling and encapsulation.

2.a) Discuss in detail about Dynamic Host Configuration Protocol.

b) Explain mechanism for IP packet delivery using mobile IP concept.

3.Discuss the design goals of Mobile IP.

4. a) Explain in detail about IP-in-IP encapsulation.

b) Describe the process of optimization in mobile IP with a suitable timeline diagram.

5. What is basic purpose of DHCP? Name the entities of DHCP.

6. a) Describe the process of IP Packet delivery with neat sketch

b) Define care of address (COA) and what are the two different possibilities for the location of COA?

7. How can DHCP be used for mobility and support of mobile IP?

8. a) How does mobile IP work? What are the challenges with mobile IP with respect to high speed mobility? How does cellular IP solve some of these challenges?

b) Explain the fields of the header in ICMP messages. What are the uses of ICMP messages on the internet?

9. a) Describe the process of IP Packet delivery with neat sketch.

b) Define care of address (COA) and what are the two different possibilities for the location of COA?

UNIT-4

1. Why standard TCP is not suitable for wireless networks?

2. a) Discuss in detail about Dynamic Host Configuration Protocol.
   b) Explain mechanism for IP packet delivery using mobile IP concept.

3. Describe slow start of congestion control. How can fast recovery takes place in the congestion avoidance phase?

4. a) Explain how selective retransmission is a useful extension of TCP. Are there any disadvantages of this approach?

   b) Describe briefly on congestion control in traditional TCP.

5.What are the advantages and disadvantages of push based mechanism.

6. a) Explain the concept of cache invalidation mechanisms.
   b) Explain in detail about context aware computing.

7. How and why does I-TCP isolate problems on the wireless link?

8. a) Explain snooping TCP. What are its advantages and disadvantages?
b) Explain Mobile TCP. How does a supervisory host send TCP packets to the mobile node and to a fixed TCP connection?

9. List advantages of hoarding the data at mobile device.

10. a) Describe transaction oriented TCP.

b) Explain ACID transaction rules that should be maintained by database transactional models to achieve data integrity?

UNIT-5

1. Explain the hashing based scheme in detail.

2. a) Describe synchronization usage models in mobile applications.

b) Explain the functions of Hybrid mechanisms with a neat sketch

3. a) Explain about power aware computing.

b) Explain Query-processing architecture for processing a query usin distributed databases?

4.What are the QoS issues?

5. Explain selective tuning and indexing techniques

6. What are the advantages and disadvantages of hybrid mechanism?

7. a) Discuss about communication asymmetry with the help of a diagram.

b) Explain the Hash based and Index based selective tuning and indexing techniques.

8. Explain directory method.

9. a) Explain the functions of pull based mechanisms with a neat sketch.

b) Explain Index-based method.

10. Explain the hashing based scheme in detail.

11. a) Describe synchronization usage models in mobile applications.

b) Explain the functions of Hybrid mechanisms with a neat sketch.

UNIT-6

1. Describe features of MIDP 3.0?

2. a) Draw the Bluetooth protocol stack and explain the core protocols.

b) Write about J2ME in briefly.

3. How is MIDP defined from J2ME?

4. a) Write short notes on WAE.

   b) Explain in detail AODV routing algorithm for MANETS

5. Describe the applications of MANETs.

6. a) Explain in detail about protocol architecture of WAP.

   b) Distinguish the MANETs from cellular mobile networks.

7. Describe the properties of MANET.

8. a) Describe Dynamic source routing protocol with an example.

   b) Write short notes on Windows CE.

9. Explain the session establishment in WSP/B.

10. a) Explain in detail AODV routing algorithm for MANETS.
    b) Draw and discuss the protocol architecture of WAP