End Semester Examination June 2024

Name of the Program: B.Tech - CSE   Semester: VIII

Name of the Course: Mobile Computing   Course Code: TOE 811

Time: 3 Hours   **MM: 100**

Note:

i) **All Questions are compulsory**
ii) Answer **any two sub questions** among a, b and c in each main questions.
iii) Total marks in each main question are twenty.

Q.1		
	(10X2=20 Marks)	
a.	Explain the concept of Wireless Communication. How it is different from traditional landline telephony? Explain some main technologies used in Wireless Communication.	
b.	What is the basic concept of the channel structure in GSM, and how does it facilitate communication between mobile devices and the network? Describe the different types of channels used in GSM.	CO 1
c.	With respect to mobile and wireless communication, explain the following with the help of an example 1. Issues in Mobile Computing 2. Location Management 3. CDMA	
Q.2		
	(10X2=20 Marks)	
a.	What is data broadcasting, and how does it differ from traditional point-to-point data transmission methods? Describe the advantages of data broadcasting in terms of scalability, efficiency, and resource utilization.	CO 2
b.	What is the purpose of a multiple-access protocol in wireless communication systems, and how does it facilitate the sharing of the communication medium among multiple users? Explain the architecture of WAP	
c.	Explain the following 1. Wireless LAN 2. Bluetooth Communication 3. Mobile IP	
Q.3		
	(10X2=20 Marks)	
a.	What are the key challenges of data management in mobile computing environments compared to traditional computing environments? How does limited storage capacity on mobile devices impact data management strategies, and what techniques can be used to optimize storage utilization?	CO 3
b.	What is the role of the MAC protocol in a wireless network, and how does it facilitate communication between devices sharing the same communication medium? Explain different types of MAC Protocols.	
c.	What is the CODA File System, and what are its key features and objectives? Describe the architecture of the CODA File System, including its client-server model, server replication, and caching mechanisms.	
Q.4		
	(10X2=20 Marks)	
a.	Explain the concept of Mobile Agents in detail. Discuss the features of mobile agents. Also, discuss some applications of Mobile Agents.	CO 4
b.	What are the main types of faults that can occur in mobile computing environments, and how do they impact the reliability and availability of	

	mobile applications and services? Explain the concept of fault tolerance in mobile computing and discuss the techniques used to detect, isolate, and recover from faults in mobile systems	
c.	Write short note on 1. WMN 2. Vehicular ad hoc network	
Q.5	(10X2=20 Marks)	
a.	What do you mean by Ad-Hoc On-Demand Vector Routing protocol (AODV)? Explain its working with the help of an diagram.	CO 5
b.	How do you understand Ad Hoc Networks? How does mobile computing intersect with and diverge from Ad Hoc Networks?	
c.	What do you understand by Transaction Processing in mobile computing? Explain the issues that occurs in transaction processing in mobile computing. Also discuss some solutions to overcome these issues.	