MCADD-805 (1)
M.C.A. (Integrated), VIII Semester
Examination, May 2024
Mobile Computing
(Elective - IV)

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What are the fundamental principles behind wireless transmission, and how do they differ from wired communication methods?

   b) What is multiplexing, and how does it enable multiple signals to be transmitted over a single communication channel simultaneously?

2. a) What is the concept of frequency reuse in FDMA, and how does it allow multiple users to access the same frequency band by allocating different sub-bands to each user or cell?

   b) What are the primary components of the GSM (Global System for Mobile Communications) system architecture, and how do they interact to facilitate wireless communication?

3. a) Discuss the key steps involved in the GSM connection establishment process for initiating a voice call from a mobile device.

   b) What are the different types of handovers supported by GSM networks? How do they differ in terms of implementation and impact on call quality?

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4. a) How do WLAN protocols such as Wi-Fi (IEEE 802.11) enable wireless communication between devices? Explain.

   b) What are the different types of WLAN architectures and what are the advantages and limitations of each in various deployment scenarios?

5. a) What is an ad hoc network and how does it differ from traditional infrastructure-based networks in terms of network architecture and connectivity?

   b) What is Mobile IP and how does it enable seamless communication for mobile devices as they move between different network domains?

6. a) Discuss the advantages and disadvantages of AODV compared to other routing protocols such as DSR (Dynamic Source Routing) and DSDV (Destination-Sequenced Distance Vector).

   b) What is DHCP and what role does it play in network configuration? Explain how DHCP differs from static IP address assignment?

7. a) What are the key principles behind Indirect TCP, Snooping TCP and Mobile TCP? How do they address the challenges of TCP performance in mobile networks?

   b) Discuss about the WAP architecture and how does it enables the delivery of web content and services to mobile devices over wireless networks?

8. Write a short notes on any two :
   a) CDMA
   b) HIPERLAN
   c) ODMR
   d) Transaction oriented TCP

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