

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

(5 Pages)

Reg. No:

Question Code No : 25001408

Course Code : 24PMCA33

PG Degree - End Semester Examinations, November 2025

Third Semester

M.C.A

Mobile Computing

(For those who joined in July 2024 onwards)

Time : 3 Hours

Maximum : 75 Marks

PART – A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer

1. In a cellular network, the same frequency group may be reused in non-adjacent cells. This concept is called:
(a) Handoff (b) Frequency reuse
(c) Channelization (d) Multiplexing
2. What is the main purpose of multiplexing in mobile
(a) To reduce call drop rate
(b) To increase signal strength

- (c) To share the same communication channel among multiple users
- (d) To improve battery life
3. Orthogonal Frequency Division Multiplexing (OFDM) is primarily used in_____
- (a) GSM (b) CDMA2000
- (c) LTE (d) Bluetooth
4. In Direct Sequence Spread Spectrum (DSSS), spreading is achieved by
- (a) Time-shifting the signal
- (b) Multiplying the signal with a high-rate pseudo-random code
- (c) Using different carrier frequencies
- (d) Compressing the signal
5. The encryption and authentication in GSM is primarily handled by
- (a) BTS (b) VLR
- (c) AUC (d) BSC
6. _____ type of routing service is also known as datagram services.
- (a) Connection-oriented (b) Virtual circuit routing services

- (c) Connectionless services (d) Routing services
7. Which of the following is not a standard of WLAN?
- (a) HIPER-LAN (b) HIPERLAN/2
(c) IEEE802.11b (d) AMPS
8. _____ is a key process in the mobile IP operation
- (a) Agent discovery, registration and tunneling
(b) Handoff and roaming
(c) Agent advertising and registration
(d) Authentication and authorization
9. WAP is a set of communication protocols based on _____
- (a) FTP (b) HTML
(c) TCP/IP (d) WWW
10. Military vehicles on a battlefield with no existing infrastructure will deploy
- (a) LAN (b) Cell Network
(c) Wi-Fi (d) MANET

PART - B (5 X 5 = 25 Marks)

**Answer ALL Questions choosing either (a) or (b).
Answer should not exceed 250 words.**

11. (a) Analyze the concepts of signal propagation.

(OR)

(b) Compare and contrast the frequency shift keying modulation technique with amplitude shift keying.

12. (a) Contrast the impact of the exposed terminal problem versus the hidden terminal problem on overall network throughput.

(OR)

(b) Categorize the primary advantages and disadvantages of FDMA, TDMA and CDMA.

13. (a) Analyze the UMTS system architecture

(OR)

(b) How would you demonstrate the handover process for a mobile device moving between two different cells using a simplified network diagram?

14. (a) Analyze the system and protocol architecture in IEEE 802.11.

(OR)

(b) List out the entities and terminology of mobile IP in detail.

15. (a) Difference between WTP and WSP

(OR)

(b) Analyze the reactive routing protocol.

PART – C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 600 words.

16. (a) Discuss in detail about the types of antennas with their radiation patterns.

(OR)

(b) Explain space, frequency, code and time division multiplexing in detail.

17. (a) Determine about the DSSS and FHSS.

(OR)

(b) Explain about the TDMA.

18. (a) Discuss about the GSM Architecture.

(OR)

(b) Explain routing and localization in satellite system.

19. (a) Elaborate the architecture of bluetooth.

(OR)

(b) Explain IP packet delivery and agent discovery in mobile IP in detail.

20. (a) Explain the function of the components of the WAP architecture.

(OR)

(b) Discuss the proactive routing protocol.

