

Reg. No.

Question Paper Code

13477

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2025

Fifth Semester

Computer Science and Engineering
20CSPC503 – MOBILE COMPUTING

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

- | | <i>Marks</i> | <i>K – Level</i> | <i>CO</i> |
|--|--------------|------------------|-----------|
| 1. Which of the following are multiplexing methods used in mobile communication?
(a) CDMA (b) TDMA (c) FDMA (d) All of the mentioned | 1 | K1 | CO1 |
| 2. What is the primary use of GPS in mobile computing?
(a) Gaming (b) Navigation (c) Social media (d) Email | 1 | K1 | CO1 |
| 3. Recall GSM stand for in mobile telecommunication?
(a) Global Standard for Mobile
(b) Global System for Mobile Communications
(c) General System for Mobile Communication
(d) General Standard for Mobile Communications | 1 | K1 | CO2 |
| 4. Read what does GPRS stand for?
(a) General Packet Radio Service (b) General Packet Routing System
(c) Global Packet Radio System (d) General Packet Radio Solution | 1 | K1 | CO2 |
| 5. Recognize the term LTE.
(a) Long Term Evolution (b) Long Term Expansion
(c) Long Time Evolution (d) Large Term Evolution | 1 | K1 | CO3 |
| 6. Recite the purpose of the NodeB in UMTS?
(a) Manage core network operations (b) Serve as the radio access network equipment
(c) Handle user billing (d) Encrypt user communications | 1 | K1 | CO3 |
| 7. What is the process called when a mobile node changes its point of attachment to the network?
(a) Roaming (b) Tunneling (c) Handoff (d) Authentication | 1 | K1 | CO4 |
| 8. Match the routing protocol used in DSDV (Destination-Sequenced Distance-Vector)?
(a) Reactive (b) Hybrid (c) Proactive (d) Multicast | 1 | K1 | CO4 |
| 9. Which layer in the WAP architecture is responsible for secure communication?
(a) WML (b) WTLS (c) WSP (d) WDP | 1 | K1 | CO5 |
| 10. Windows Phone OS was developed by which company?
(a) Apple (b) Google (c) Microsoft (d) Nokia | 1 | K1 | CO6 |

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

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|---|---|----|-----|
| 11. Compare CSMA/CD and CSMA/CA. | 2 | K2 | CO1 |
| 12. Write the uses of RTS and CTS. | 2 | K1 | CO1 |
| 13. Describe the function of HLR and VLR. | 2 | K2 | CO2 |
| 14. Define GPRS and explain its significance in mobile communication. | 2 | K1 | CO2 |
| 15. Write the types of Handoff. | 2 | K3 | CO3 |
| 16. Show how LTE achieves higher data rates compared to UMTS? | 2 | K2 | CO3 |
| 17. Classify the agent discovery in mobile IP. | 2 | K2 | CO4 |
| 18. Explain care of address. | 2 | K3 | CO4 |
| 19. What is the use of WCMP? | 2 | K2 | CO5 |

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|---|---|----|-----|
| 20. Distinguish between TCP and UDP. | 2 | K2 | CO5 |
| 21. Summarize any two features of window phone. | 2 | K2 | CO6 |
| 22. List some mobile payment gateways. | 2 | K1 | CO6 |

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

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|---|----|----|-----|
| 23. a) Compare the various generations of mobile computing. | 11 | K2 | CO1 |
| OR | | | |
| b) Explain the concept of multiple access with collision avoidance. | 11 | K2 | CO1 |
| 24. a) Examine GPRS system architecture with a neat diagram. | 11 | K3 | CO2 |
| OR | | | |
| b) Compute in detail about connection establishment and security of GSM. | 11 | K3 | CO2 |
| 25. a) Illustrate the architecture of LTE with a neat diagram and services. | 11 | K3 | CO3 |
| OR | | | |
| b) Explain the architecture of UMTS and explain the elements present in that. | 11 | K3 | CO3 |
| 26. a) Explain DSR routing protocols in detail. | 11 | K3 | CO4 |
| OR | | | |
| b) Discover the requirements of Mobile IP. Show how tunneling and encapsulation play a crucial role in packet delivery through routing. | 11 | K3 | CO4 |
| 27. a) Paraphrase the concept of wireless transaction protocol in detail. | 11 | K2 | CO5 |
| OR | | | |
| b) Summarize the WDP protocol and draw the working flow architecture of WDP. | 11 | K2 | CO5 |
| 28. a) Explain in detail about different commercial mobile operating systems. | 11 | K2 | CO6 |
| OR | | | |
| b) Review the features of mobile operating system and explain detail about black berry SDK. | 11 | K2 | CO6 |