**MCQ Questions**

Computer Engineering

**Subject Name:** Mobile Computing  **Semester: VI**

Multiple Choice Questions

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|  | **Choose the correct option for following questions. All the Questions carry equal marks**  |
| 1. | 1) Which of the following usually stores all user-related data that is also relevant to GSM mobile systems? |
| Option A: | VLR |
| Option B: | HMR  |
| Option C: | CMR |
| Option D: | SIM |
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| 2. | Which of these is required for the transmission of digital information by translating it into analogue signals via a particular frequency? |
| Option A: | BSPK |
| Option B: | QPSK |
| Option C: | Modulation |
| Option D: | Demodulation |
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| 3. | Two or more antennas can also be combined to improve reception by counteracting the negative effects of multi-path propagation. These antennas, also called |
| Option A: | Multi-element antenna arrays |
| Option B: | Smart antennas |
| Option C: | Sectorized antenna |
| Option D: | Isotropic radiator |
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| 4. | In which one of the following, the slow and fast hopping is used? |
| Option A: | GSM |
| Option B: | GPRS |
| Option C: | FHSS |
| Option D: | None of the above |
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| 5. | Which of the following does not come under subsystem of GSM architecture? |
| Option A: | BSS |
| Option B: | NSS |
| Option C: | OSS |
| Option D: | Channel |
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| 6. | Changing VLRs with uninterrupted availability of all services is called as |
| Option A: | VLR switching |
| Option B: | Roaming |
| Option C: | Hard handoff |
| Option D: | Soft handoff |
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| 7. | What is the interface between SGSN and HLR in a GPRS network structure? |
| Option A: | Gs |
| Option B: | Gn |
| Option C: | Gb |
| Option D: | Gr |
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| 8. | UMTS is also known as \_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | IS-95 |
| Option B: | GPRS |
| Option C: | CdmaOne |
| Option D: | W-CDMA |
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| 9. | It is defined as the process of transferring a call (or data transfer) in progress from one channel to another channel. |
| Option A: | Handover |
| Option B: | Handoff |
| Option C: | Roaming |
| Option D: | Both A and B |
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| 10. | The security algorithms used in GSM are\_\_\_\_\_\_\_\_\_\_. |
| Option A: | A3 |
| Option B: | A5 |
| Option C: | A8 |
| Option D: | All of the above |
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| **11.** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the mechanism of taking a packet consisting of packet header and data and putting it into the data part of a new packet. |
| Option A: | Decapsulation |
| Option B: | Encapsulation |
| Option C: | IP-in-IP |
| Option D: | Packet extension |
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| **12.** | Foreign agents and home agents advertise their presenceperiodically using special message is called as |
| Option A: | Tunneling message |
| Option B: | Registration request |
| Option C: | Agent advertisement message |
| Option D: | Binding request |
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| **13.** | In TCP/IP, ———————— is a congestion control algorithm that makes it possible to quickly recover lost data packets. |
| Option A: | Fast retransmit and fast recovery |
| Option B: | Fast retransmit |
| Option C: | Fast recovery |
| Option D: | None of the above |
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| **14.** | In the Indirect TCP the Foreign Agent (FA) becomes or acts as a —— and relays data in both directions |
| Option A: | Router |
| Option B: | Node |
| Option C: | Proxy |
| Option D: | Access Point |
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| **15.** | A mobile phone uses \_\_\_\_\_\_ type of duplex communication |
| Option A: | Full  |
| Option B: | Half |
| Option C: | Both A And B |
| Option D: | None of the above |
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| **16.** | What does LTE stand for  |
| Option A: | Level telecom advanced  |
| Option B: | Long terminal advanced  |
| Option C: | Long term evolution  |
| Option D: | Long time evolution  |
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| **17.** | What are the advantages of a 4G LTE network over 3G network? |
| Option A: | More Spectral Efficiency  |
| Option B: | Low power consumption  |
| Option C: | Scalability and flexibility with other networks |
| Option D: | All of the above  |
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| 18. | What is the full form of WLAN? |
| Option A: | Wide Local Area Network |
| Option B: | Wireless Local Area Network |
| Option C: | Wireless Land Access Network |
| Option D: | Wireless Local Area Node |
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| 19. | Which of the following specifies a set of media access control (MAC) and physical layer specifications for implementing WLANs? |
| Option A: | IEEE 802.16 |
| Option B: | IEEE 802.3 |
| Option C: | IEEE 802.11 |
| Option D: | IEEE 802.15 |
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| 20. | Which of the following is the 802.11 High Rate Standard? |
| Option A: | IEEE 802.15 |
| Option B: | IEEE 802.15.4 |
| Option C: | IEEE 802.11g |
| Option D: | IEEE 802.11b |
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| 21. | What is an Access point? |
| Option A: | An entity that provides access to the LLC Layer |
| Option B: | An entity that provides access to the MAC Layer |
| Option C: | An entity that provides access to the distribution system |
| Option D: | An entity that provides access to the Basic Service Set |
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| 22. | The frequency band of Bluetooth radio is around |
| Option A: | 2.1GHz |
| Option B: | 2.3GHz |
| Option C: | 2.4GHz |
| Option D: | None of the above |
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| 23. | The Single Piconet formed by |
| Option A: | One Slave and One master |
| Option B: | One Slave and multiple masters |
| Option C: | Multiple slaves and one master |
| Option D: | Multiple slaves and multiple masters |
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| 24. | The Scatternet is a combination of  |
| Option A: | Single piconet |
| Option B: | Double piconet |
| Option C: | Multiple piconet |
| Option D: | None of the above |
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|  25. | The size of an IP address in IPv6 is |
| Option A: | 4 bytes |
| Option B: | 128 bits |
| Option C: | 8 bytes |
| Option D: | 100 bits |
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| 26. | In CIP Architecture the major components are  |
| Option A: | Micro mobility |
| Option B: | Macro mobility |
| Option C: | Cellular IP gateway |
| Option D: | None of the above |
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| 27. | In practical IPv6 application, a technology encapsulates IPv6 packets inside IPv4 packets, this technology is called  |
| Option A: | Tunneling |
| Option B: | Hashing |
| Option C: | Routing  |
| Option D: | NAT |
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| **28.** | The header length of an IPv6 datagram is  |
| Option A: | 10 bytes |
| Option B: | 25 bytes |
| Option C: | 30 bytes |
| Option D: | 40 bytes |
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| **29.** | HMIPv6 stands for |
| Option A: | Host Mobile IPv6 |
| Option B: | High Mobile IPv6 |
| Option C: | Hierarchical Mobile IPv6  |
| Option D: | None of the above |
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| **30.** | Challenges of mobile computing include |
| Option A: | Low Security |
| Option B: | Ad hoc Networking |
| Option C: | Shared medium |
| Option D: | All of the above |

**Descriptive Questions**

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| Differentiate between DSSS and FHSS. |
| Explain the Various types of antennas along with their radiation patters. |
| Explain GSM architecture and different interfaces used in it. |
| What are the modifications are required to an existing GSM network to be upgraded to GPRS, Explain with suitable diagram. |
| Write a short note on UTRAN and UMTS network. |
| Explain Hidden and Exposed terminal problem? Discuss solutions to this problems  |
| Explain Tunnelling and Encapsulation and discuss how tunnelling work for Mobile IP using IP-In-IP Encapsulation? |
| Explain about Hierarchical Mobile IPv6? |
| Explain the SAE architecture in detailed manner. |
| Explain LTE protocol stack. |
| Explain LTE MAC layer. |
| Explain Protocol Architecture of 802.11? |
| Explain in detail IEEE 802.11 MAC sub layer? |
| Explain Bluetooth Architecture in detailed manner? |
| Draw and explain Bluetooth protocol stack in detail? |
| Explain about optimization in mobility management? |
| Comparison of IPv4 and IPv6 Header format? |
| What is Cellular IP? Explain CIP architecture along with routing and paging procedure in CIP?  |
| Discuss in detail about Macro Mobility? |
| Explain about HAWAII in detailed manner? |
| Explain Agent advertisement in Mobile IP? |
| Explain various ALOHA protocol?  |
| What are the goals of Mobile IP? |
| Write a short note on different generations of telecommunication |
| Compare between 1G, 2G, 3G, 4G and 5G generations. |
| Compare between LTE and LTE advanced. |
| Explain how Mobile originated call (MOC) work. |
| Explain the concept of medium access protocol. |
| Discuss various GSM services. |
| Explain how Mobile terminated call work in GSM. |
| Difference between Ad-hoc Network and Infrastructure Network? |
| Comparison of various IEEE 802.11x Standards? |
| Explain about Wireless LAN threats? |
| Short note on 5G. |
| Describe Micro Mobility. |