**MOBILE COMPUTING**

**1 Mark Questions for Mid-II**

**Unit-II**

1. **Specify the security services offered by GSM.**

Access control and authentication, Confidentiality, Anonymity.

1. **What is the frequency range of uplink and downlink in GSM network?**

890–915 MHz for uplinks and 935–960 MHz for downlinks.

1. **What are two basic groups of logical channels in GSM?**

Traffic channels and control channels.

1. **What are the control channel groups in GSM?**

Broadcast control channel, Common control channel, Dedicated control channel.

1. **List out the numbers needed to locate an MS and to address the MS.**

Mobile station international ISDN number (MSISDN), International mobile subscriber identity (IMSI), Temporary mobile subscriber identity (TMSI), Mobile station roaming number (MSRN).

1. **What are 4 possible handover scenarios in GSM?**

Intra-cell handover, Inter-cell, intra-BSC handover, Inter-BSC, intra-MSC handover, Inter MSC handover.

1. **What is meant of GGSN?**

Gateway GPRS support node (GGSN) is the interworking unit between the GPRS network and external packet data networks.

1. **What is meant by SGSN?**

Serving GPRS support node (SGSN) which supports the MS via the Gb interface.

1. **What is meant by BSSSGP?**

A base station subsystem GPRS protocol (BSSGP) is used to convey routing and QoS-related information between the BSS and SGSN.

1. **What are the steps perform during the search for a cell after power on?**

Primary synchronization, Secondary synchronization, Identification of the scrambling code.

1. **What are the 2 basic classes of handover in UMTS?**

Hard handover, Soft handover

1. **Differentiate Broadcast from Multicast.**

Broadcast transmits data to all devices on a network.Multicast transmits data addressed to a group receivers simultaneously.

1. **What do you understand by co-channel interference and adjacent?**

If two transmissions overlap in time is called co-channel interference. Frequency band overlapping is called adjacent channel interference.

1. **Describe the services provided by GSM network.**

Bearer, Tele, and Supplementary services

1. **What is the frequency range of uplink and downlink in GSM 900 network?**

890–915 MHz for uplinks and 935–960 MHz for downlinks

1. **What are the technologies used in 2.5G.**

EDGE, GPRS

1. **Define Anonymity.**

Anonymity is a security service offered by GSM. To provide user anonymity, all data is encrypted before transmission, and user identifiers (which would reveal an identity) are not used over the air.

1. **Define Uplink.**

Frequencies from mobile station to base station is called Uplink.

1. **What is the significance of Um Interface in GSM?**

A BTS can form a radio cell using sectorized antennas and is connected to MS via the Um interface.

1. **What is the significance of TMSI?**

Temporary mobile subscriber identity (TMSI) is dynamic information in GSM.

1. **What is baudrate of GSM Burst?**

546.5 µs

1. **Describe the services provided by GSM network.**

Bearer, Tele, and Supplementary services

**Unit-III**

1. **What are the advantages of WLANS?**

Flexibility, Planning, Design, Robustness, Cost.

1. **Mention some of the disadvantages of WLANS.**

Quality of Service, Proprietary Solutions, Restrictions, Safety and Security.

1. **Mention the design goals of WLANS.**

Global Operation, Low Power, License free operation, Robust transmission technology, Simplified spontaneous cooperation, Easy to use, Protection of investment, Safety and Security, Transparency for applications.

1. **What is the difference between infrastructure and ad-hoc networks?**

Infrastructure networks need access point but ad-hoc network does not need any infrastructure.

1. **Mention the features of infrared transmission**.

Simple, cheap sender and receiver, integrate into all mobile devices, no licenses are needed, shielding is simple.

1. **What are the disadvantages of infrared transmission?**

Low bandwidth, easily shielded, cannot penetrate walls or other obstacles

1. **Mention the features of radio transmission.**

Cover larger area, can penetrate walls, furniture, plants, more coverage can be gained by reflection, donot need LOS, offer higher transmission rates.

1. **What are the disadvantages of radio transmission?**

Shielding is not simple, can interfere with other devices and destroy data transmitted, radio transmission is permitted in certain frequency.

1. **Define frequency hopping spread spectrum.**

In frequency hopping spread spectrum (FHSS) systems, the total available bandwidth is split into many channels of smaller bandwidth plus guard spaces between the channels.

1. **Define random backoff time.**

Random backoff time within a contention window delays medium access for this random amount of time.

1. **What is traffic indication map?**

Traffic Indication Map (TIM) contains a list of stations for which unicast data frames are buffered in the access point.

1. **What is delivery traffic indication map?**

The access point maintains a delivery traffic indication map (DTIM) interval for sending broadcast/multicast frames.

1. **What is Ad-hoc TIM?**

Destinations are announced using ad-hoc traffic indication map (ATIMs)

1. **What is meant by roaming?**

Moving between access points is called roaming.

1. **Mention the elements of Bluetooth core protocols.**

Radio, Baseband, Link manager protocol, Logical link control and adaptation protocol (L2CAP), Service discovery protocol.

1. **What is purpose of sniff state?**

The sniff state has the highest power consumption of the low power states.

1. **What is the use of hold state?**

The device does not release its AMA but stops ACL transmission.

1. **What is the purpose of park state?**

In this state the device has the lowest duty cycle and the lowest power consumption.

1. **In what functionality Switches differ from Routers.**

Switches operate in Data Link Layer and Router operate in Network Layer.

1. **What is the functionality of PLCP?**

Physical Layer Convergence Protocol provides a carrier sense signal, called clear channel assessment (CCA), and provides a common PHY service access point (SAP) independent of the transmission technology.

1. **Give any standard for Ad-hoc Network.**

Bluetooth

1. **What is the functionality in IEEE 802.11**

Simple and robust WLAN which offers time bounded and asynchronous services.

1. **What is mean by PDU?**

Protocol Data Unit

1. **What are different layers in IEEE 802.11.**

PHY, MAC, LLC, IP, TCP, Application

1. **What is the necessity of HEC field of IEEE 802.11?**

An 8-bit header error check (HEC) is used to protect the packet header

1. **What is the data rate of IEEE 802.11b**.

2.4GHz

1. **What is preamble?**

Preamble is a part of PLCP.