SOMAIYA
VIDYAVIHAR

K J Somaiya Institute of Engineering and Information Technology
An Autonomous Institute permanently affiliated to University of Mumbai.
Accredited with A grade by NAAC, approved by AICTE, new Delhi.

Department of Computer Engineering

Mobile Computing
Question Bank(2021-22)

1	What is mobile computing? Give its functions
2	Explain cell splitting & sectoring.
3	Explain Frequency reuse with a neat sketch.
4	Explain Handoff Strategies.
5	What is co channel Interference? How can it be controlled?
6	Write short notes on Electromagnetic Spectrum, Antenna ,Signal Propagation, Signal Characteristics, , Multiplexing, Spread Spectrum: DSSS & FHSS
7	GSM Mobile services, System Architecture, Radio interface, Protocols , Localization and Calling, Handover, security (A3,A5 & A8)
8	What is GPRS?Explain its architecture in detail.
9	What are various issues in signal propagation?
10	Explain GSM in detail
11	Explain various types of Handoffs in cellular system
12	What are security issues in mobile computing
13	Write short note on Antenna
14	Write a short note on Authentication and privacy in GSM.
15	Discuss Multiplexing in wireless communication

16	What is the relationship between the Base station and mobile switching center? Discuss the role of the EIR entity of GSM network.
17	Looking at the HLR/VLR database used in GSM, how does this architecture limit the scalability in terms of user, especially moving users? Explain the control channel of GSM.
18	Explain in detail IEEE 802.11 MAC sublayer
19	What is the hidden terminal and Exposed terminal problem?Discuss solutions to these problems.
20	Explain 5G architecture with a neat diagram.
21	Explain functioning of I-TCP and Snoop TCP giving advantages and disadvantages of both
22	Explain in detail 3G architecture
23	Explain in short how hidden terminal problems are avoided in WLAN.
24	Why is a mobile IP packet required to be forwarded through a tunnel?
25	Explain encapsulation of mobile IP packet.
26	Explain in detail 4G architecture.
27	List the entities of mobile IP and explain data transfer from a mobile node to a fixed node and vice versa.
28	Explain power management in IEEE 802.11 Infrastructure and ad-hoc network.
29	Explain Macro mobility techniques and Micro mobility techniques. (Cellular IP and HAWAII) (IP mobility and FMIPv6)
30	Describe Bluetooth architecture and protocol stack
31	Explain Exposed Terminal Problem
32	Explain WEP,WAP and WAP2.
33	Explain handover in GSM.
34	Explain FastRetransmit/Fast Recovery in Mobile TCP-.
35	Explain Transmission/Timeout Freezing in Mobile TCP.
36	Explain MAC layer architecture.
37	Explain agent advertisement and discovery registration in mobile network.
38	Explain MAC techniques for wireless networks.(e.g CSMA/CA)

39	Explain the architecture of UTRAN.
40	Why there is a need of security in WLAN?
41	What are the ways to achieve wi-fi security?(WEP/WAP/WAP2)
42	Explain Hidden Terminal problem.
43	Explain Selective Retransmissions in mobile TCP.
44	Explain 2.5G Architecture.
45	Explain 3G Architecture.
46	Explain UTRAN Architecture.
47	Explain GSM architecture in detail.(BSS,NSS,BTS,BSC,MSC,GMSC,VLR,HLR,EIR,AUC,interfaces,protocols).
48	Explain various types of handoffs in the GSM network.
49	What is an antenna? What are the different types of antennae?
50	Explain how mobile terminated calls work detailing the use of HLR and VLR.
51	Explain in detail 3G architecture(UMTS).
52	What is GPRS?Define its architecture in detail.
53	What are various issues in signal propagation?
54	Write a short note on Authentication and privacy in GSM.
55	Describe Inter-MSC handover technique.
56	Compare GPRS architecture with GSM architecture.
57	Write a short note on GPRS network nodes.
58	What is the goal of Mobile IP?How packet delivery is achieved to and from mobile nodes?
59	Write a short note on Frequency Hopping Spread Spectrum.
60	Write a short note on Direct Sequence Spread spectrum.
61	Explain the functionality of I-TCP and Snoop TCP
62	What is the disconnection problem?Explain the reaction of M-TCP along with its advantages and

	disadvantages.
63	Illustrate Infrastructure and adhoc network with neat diagrams.
64	Explain classical architecture of infrastructure networks.
65	Explain architecture of ad hoc network.
66	Explain IEEE 802.11 MAC layer architecture.
67	Explain MAC interframe space with its types.
68	Explain CSMA/CA access method with the help of a diagram.
69	Write short notes on a) Synchronization b) Power Management c) Association/Reassociation with neat diagrams.
70	Explain Bluetooth protocol stack architecture.
71	Explain 4G LTE architecture with a neat diagram.
72	Explain following points in LTE advanced with diagram a) Carrier aggregation b) MIMO c) Relay Nodes