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K. J. Somaiya Institute of Engineering and Information Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

End Semester Exam

May –June 2022

B.Tech-Program - Computer Engineering

Examination: TY Semester VI

Course Code: 1UCEC603 and Course Name: Mobile Computing

Duration:03Hours

Max.Marks:60

Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable
- (3) Assume suitable data, if necessary.

Q.No.	Question	Max.Marks	CO	BTLevel
Q 1	Solve any six questions out of eight:	12		
i)	What is mobile computing? Give its functions.	2	CO1	U
ii)	Explain Localization and Calling in GSM.	2	CO2	U
iii)	Explain the concept of Mobile IP with example.	2	CO3	U
iv)	What is the hidden terminal and Exposed terminal problem?	2	CO4	U
v)	Explain Macro-Mobility with example	2	CO5	U
vi)	Explain Voice over LTE (VoLTE)	2	CO6	U
vii)	Explain Carrier aggregation in LTE.	2	CO6	U
viii)	Explain the Handover process in GSM.	2	CO2	U
Q.2	Solve any four questions out of six.	16		
i)	Write short note on 1. Spread Spectrum: DSSS & FHSS 2. Co- channel interference	4	CO1	U
ii)	Explain GSM security algorithms with diagram.	4	CO2	U
iii)	Explain Fast Retransmit/Fast Recovery in Mobile TCP	4	CO3	U
iv)	Explain Bluetooth architecture.	4	CO4	U
v)	Explain IPV6.	4	CO5	U
vi)	Explain evolution from UMTS to LTE.	4	CO6	U
Q.3	Solve any two questions out of three.	16		
i)	Explain Mobile Computing with cell splitting & sectoring.	8	CO1	U
ii)	Explain Mobile IP with following terms: IP Packet Delivery, Agent Advertisement, Discovery, Registration, Tunneling and Encapsulation, Reverse Tunneling.	8	CO3	U
iii)	Explain IP mobility and FMIPv6 with neat diagram.	8	CO5	U
Q. 4	Solve any two out of three	16		
i)	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	8	CO2	A



	channel of GSM.			
ii)	Explain IEEE 802.11 system architecture. (MAC management)	8	CO4	U
iii)	Explain 4G architecture with neat diagram.	8	CO6	U