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

July/Aug ~~May-June~~ : 2024-2025
(B. Tech.) Program: Computer Engineering Scheme: IIB
Supplementary ~~Regular~~: TY Semester: V
Course Code: CEC603 and Course Name: Mobile Computing
Date of Exam: ~~26/04/25~~ 02/08/25 Duration: 02.5 Hours 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	BT level
Q 1	Solve any **two** questions out of three: (05 marks each)	10		
a)	Name and Explain the key protocols used in GSM networks.		CO2	U
b)	Explain the concept of Tunneling in Mobile IP.		CO3	U
c)	Discuss the importance of MAC management in IEEE 802.11 networks and its role in ensuring data integrity.		CO1	U
Q 2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Illustrate the role of HMIPv6 in micro mobility management and its impact on handoff latency.		CO6	Ap
b)	Explain the differences between WEP and WPA security protocols in Wi-Fi networks, with examples.		CO4	U
c)	Compare the protocols CellularIP, HAWAII, and HMIPv6 in managing micro mobility. Highlight their advantages and limitations.		CO5	Ap
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	Explain how DSSS and FHSS can be used in military communication systems.		CO1	Ap
b)	How can GSM security algorithms (A3, A5, A8) be applied to protect user data?		CO2	U

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c)	Explain the SAE architecture, focusing on the role of the Serving Gateway (SGW) and Packet Data Network Gateway (PGW) in maintaining data continuity.		CO6	U
Q.4	Solve any **two** questions out of three. (10 marks each)	20		
a)	Demonstrate how IP packet delivery is handled in Mobile IP.		CO3	Ap
b)	Illustrate the role of Self-Organizing Networks (SON) in managing heterogeneous networks (HetNet).		CO5	Ap
c)	Explain how ad-hoc and infrastructure modes differ in wireless LANs with suitable examples.		CO4	U

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