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

May-June : 2024-2025
(B. Tech.) Program: Computer Engineering Scheme: IIB
Regular: TY Semester: V
Course Code: CEC603 and Course Name: Mobile Computing
Date of Exam: 24/5/2025 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)	Explain the structure of IEEE 802.11 protocol architecture and how it manages medium access control.		CO2	U
b)	Describe the process of mobile IP registration and the role of tunneling with suitable diagrams.		CO3	U
c)	Describe the structure and functioning of a basic cellular system. How do cells and base stations work together to provide seamless communication?		CO1	U
Q 2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Compare the differences between MIPv6 and FMIPv6, highlighting their significance in mobility management		CO6	Ap
b)	Explain the SON-LTE architecture and its application in heterogeneous networks (HetNet)		CO4	U
c)	Demonstrate how Bluetooth architecture ensures secure data transfer using encryption and authentication.		CO5	Ap
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	Illustrate the performance of LTE networks in supporting VoLTE and discuss the architectural components involved.		CO1	Ap
b)	Explain the architecture of the UMTS core network.		CO2	U

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c)	Examine the evolution of wireless network technologies from 2G to 5G, emphasizing advancements in protocol and bandwidth.		CO6	U
Q.4	Solve any **two** questions out of three. (10 marks each)	20		
a)	Illustrate the impact of implementing IPv6 in macro mobility management and how it optimizes handoff scenarios.		CO3	Ap
b)	Discuss how LTE-Advanced enhances throughput and latency, with specific focus on Self-Organizing Networks (SON).		CO5	Ap
c)	Describe the concept of Voice over LTE (VoLTE). How does it differ from traditional circuit-switched voice services in terms of data handling and network efficiency?		CO4	U

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