U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January 2024 Semester End Main Examinations

Programme: B.E. **Semester: VII**
Branch: Institutional Elective **Duration: 3 hrs.**
Course Code: 19EC7OE2MC **Max Marks: 100**
Course: Fundamentals of Mobile Communications

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			CO	PO	Marks
		UNIT - I			
1	a)	What are the technological advancements that enabled the transition from 2G to 4G networks?	*CO1*	*PO1*	**10**
	b)	Differentiate a) cellular system with fixed line telephone system b)TDMA and FDMA	*CO1*	*PO1*	**10**
		UNIT - II			
2	a)	Compare the features of two channel assignment strategies employed in cellular systems	*CO1*	*PO1*	**10**
	b)	Identify how capacity of cellular system can be improved	*CO1*	*PO1*	**10**
		UNIT - III			
3	a)	Describe the roles of Mobile Switching Center (MSC), Home Location Register (HLR), Visitor Location Register (VLR), Authentication Center (AuC), and Equipment Identity Register (EIR) in GSM	*CO1*	*PO1*	**10**
	b)	Explain briefly intra BSC hand over in GSM system when the conversation is in progress.	*CO1*	*PO1*	**10**
		OR			
4	a)	List the different subscriber identification numbers used in GSM network and their use.	*CO1*	*PO1*	**10**
	b)	What is the purpose of using multiframes and superframes in GSM frame structures? How many time slots are there in a single GSM frame, and how are they utilized?	*CO1*	*PO1*	**10**
		UNIT - IV			
5	a)	Explain EDGE architecture with the additional up gradation in network elements	*CO1*	*PO1*	**10**
	b)	With the block diagram explain wireless sensor network and compare the advantages of adhoc network with cellular network.	*CO1*	*PO1*	**10**

			OR			
	6	a)	Explain the UMTS Network architecture with block diagram and indicate functionality of each element.	***CO1***	***PO1***	**10**
		b)	Explain how Ultra-Wideband (UWB) technology in wireless communications, differ from traditional narrowband or broadband systems and what are its key advantages over Bluetooth standard.	***CO1***	***PO1***	**10**
			UNIT - V			
	7	a)	Explain m commerce life cycle with relevant diagrams	***CO2***	***PO4***	**10**
		b)	Discuss different m commerce applications and services	***CO2***	***PO4***	**10**

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