SRM Institute of Science and Technology
College of Engineering and Technology
School of Computing

Mode of Exam
OFFLINE

DEPARTMENT OF COMPUTING TECHNOLOGIES

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

Academic Year: 2022-2023 (Even)

Test: CLAT-2 **Date: 3//4/**
Course Code & Title:18CSE458T/Wireless and Mobile Communication **Duration:** 100 Mins
Year & Sem: III &VI **Max. Marks:** 50

Course Articulation Matrix:

CO/PO	*PO1*	*PO2*	*PO3*	*PO4*	*PO5*	*PO6*	*PO7*	*PO8*	*PO9*	*PO10*	*PO11*	*PO12*	*PSO1*	*PSO2*	*PSO3*
CO1	*3*	*2*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*
CO2	*2*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*
CO3	*2*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*2*
CO4	*3*	*-*	*1*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*
CO5	*3*	*1*	*2*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*

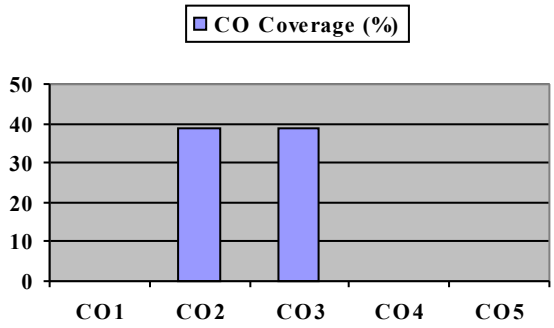
Part - A
(6x 1 = 6 Marks)

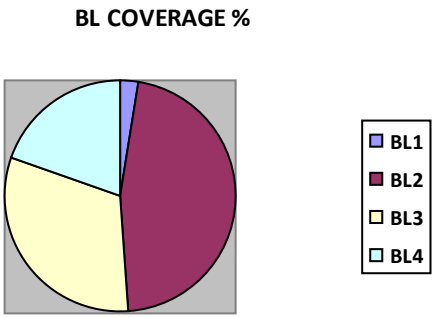
Instructions: Answer all

Q. No	Question	Marks	BL	CO	PO	PI Code
1	Which of the following is not a disadvantage of using small cells in cellular systems? (i) Infrastructure needed (ii) Frequency Planning (iii) Handover needed (iv) Robustness	1	1	2	1	
2	In Code division multiple access, if two vectors have their inner product as +10 then they are said to be (i) Orthogonal (ii) Weakly orthogonal (iii) strongly orthogonal (iv) not orthogonal	1	2	2	1	
3	What is the resulting scheme, if we use CDMA along with single code? (i) Spread aloha multiple access (ii) Orthogonal division multiple access (iii) Carrier sense multiple access (iv) Code division multiple access	1	3	2	1	
4	Which of the following subsystem provides radio transmission between mobile station and MSC? (i) BSC (ii) NSS (iii) OSS (iv) BSS	1	1	3	1	
5	_____ supports the operation and maintenance of GSM. (i) NSS (ii)BSS (iii) OSS	1	2	3	2	

	(iv) MSC					
6	Authentication for MS is done using_____ (i) BSC & HLR (ii) BSC & VLR (iii) MSC & HLR (iv) MSC & VLR	**1**	**3**	**3**	**2**	
	Part – B **(3 x 4 = 12 Marks)** **Instructions: Answer all**					
7.	Discuss the advantages and disadvantages of having cellular systems with small size cells	**4**	**2**	**2**	**1**	
8.	What are the main physical reasons for the failure of many MAC schemes known from wired networks? How it is addressed in wireless systems	**4**	**3**	**2**	**1**	
9.	Explain how are guard spaces realized between users in CDMA?	**4**	**3**	**3**	**2**	
	Part – C **(2 x 16 = 32 Marks)**					
10.	a). a) Two senders, A and B, want to send data. CDMA assigns the following unique and orthogonal key sequences: key A_k = 010011 for sender A, key B_K = 110101 for sender B. Sender A wants to send the bit A_d = 1, sender B sends B_d = 0. Find the coding & spreading of data from sender A & B and reconstruct the original signal at the respective receivers. (Assume a binary 0 as –1, a binary 1 as +1) or b) Compare and contrast the various medium access mechanisms. Explain MACA mechanism in detail.	**16** **16**	**4** **2**	**2** **2**	**1** **1**	
11.	a) With a neat sketch name the main elements of the GSM system architecture and describe their functions or b) What are the functions of authentication and encryption in GSM? How is system security maintained? Explain in detail.	**16** **16**	**2** **3**	**3** **3**	**1** **1**	

Course Outcome (CO) and Bloom's level (BL) Coverage in Questions





Approved by the Audit Professor/Course Coordinator

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Test: CLAT-2 **Date: 03/0**
Course Code & Title:18CSE458T/Wireless and Mobile Communication **Duration:** 1 hr 45 min
Year & Sem: IV &VII **Max. Marks:** 50

Course Learning Outcome(CLO):

CLO 2: Improve their knowledge on Digital and analog modulation techniques
CLO 3:Equip themselves familiar with principle of Mobile Communication

Question No	Reference to Outcome	Marks Alloted()	Marks Scored	Outcomes Met Yes/No
1.				
2.				
3				
4.				
5				
6				
7				
8				
9				
10.a				
10.b				
11.a.				
11.b.				

Faculty Name :

Signature :

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