

Department of Electronics & Communication Engineering	
SUBJECT: WIRELESS & MOBILE COMMUNICATION	GIVEN DATE:
CODE: REC085	SUBMISSION DATE:
NAME OF FACULTY: DR. PRAGATI SHARMA	SESSION: EVEN SEM 2020-21

Course Outcome (COs)	
At the end of course , the student will be able to	
REC085.1	Familiarize with various generations of mobile communications and its evolution
REC085.2	Understand the concept of cellular communication and fading
REC085.3	Understand the basics of wireless communication.
REC085.4	Understand Multiple Access Systems.
REC085.5	Gain knowledge of GSM, 3G and 4G systems and their comparison

ASSIGNMENT-1

SECTION-A: SHORT ANSWER QUESTIONS		Course Out come
1.	Define Basic components of cellular system	REC085.1
2.	Define different types of Hand off	REC085.1
3.	Define multipath fading and shadowing	REC085.1
SECTION-B: LONG ANSWER QUESTIONS		
4.	Explain the term- Evolution of mobile radio communication fundamentals and describe the cellular operation.	REC085.1
5.	What do you understand by cellular interference? Define co-channel interference and adjacent channel interference.	REC085.1
6.	What are different methods for improving coverage and capacity in cellular system? Describe all the method in detail with support of figures.	REC085.1
7.	Define frequency reuse and cluster in detail using neat diagram. If $I=3$ and $J=0$, What is the cluster size in cellular system?	REC085.1
8.	Classify and explain in brief different generations of wireless communication.	REC085.1

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ASSIGNMENT-2

SECTION-A: SHORT ANSWER QUESTIONS		Course Out come
1.	Define AWGN Channel	REC085.2
2.	Explain Fading in brief	REC085.2
3.	What is the purpose of propagation models?	REC085.2
SECTION-B: LONG ANSWER QUESTIONS		
4.	Explain the outdoor propagation models (i) Hata's Model (ii) Okumura's Model	REC085.2
5.	Explain Long distance path loss Indoor propagation model	REC085.2
6.	Do a neat comparison between Flat fading and Frequency selective Fading	REC085.2
7.	Explain Two Ray Rayleigh Fading Model	REC085.2
8.	Explain different parameters of mobile multipath channel.	REC085.2

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ASSIGNMENT-3

SECTION-A: SHORT ANSWER QUESTIONS		Course Out come
1.	Define Inter symbol interference in brief	REC085.3
2.	Why we are using Equalization in wireless communication?	REC085.3
3.	What is diversity and pseudo noise?	REC085.3
SECTION-B: LONG ANSWER QUESTIONS		
4.	Explain different types of equalization techniques used in wireless communication.	REC085.3
5.	Explain different types of diversity techniques used in wireless communication system.	REC085.3
6.	What do you understand by spread spectrum modulation? Explain DSSS and FHSS system.	REC085.3
7.	How zero inter symbol interference can be achieved? Explain	REC085.3
8.	Explain the basic mechanism of Vocoder and explain any two types of vocoders.	REC085.3

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ASSIGNMENT-4

SECTION-A: SHORT ANSWER QUESTIONS		Course Out come
1.	What is slotted ALOHA?	REC085.4
2.	What is reservation based multiple access schemes?	REC085.4
3.	Define IDMA	REC085.4
SECTION-B: LONG ANSWER QUESTIONS		
4.	Name all the multiple access techniques used for wireless communication. Do a neat comparison between TDMA, FDMA and CDMA.	REC085.4
5.	Explain OFDMA in detail.	REC085.4
6.	Explain the structure of a RAKE receiver with the help of a neat block diagram.	REC085.4
7.	Explain the multiplexing in MIMO systems	REC085.4
8.	Explain CSMA in detail	REC085.4

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ASSIGNMENT-5

SECTION-A: SHORT ANSWER QUESTIONS		Course Out come
1.	What is GPRS?	REC085.5
2.	Define LTE in brief	REC085.5
3.	Define EDGE technology	REC085.5
SECTION-B: LONG ANSWER QUESTIONS		
4.	Draw the GSM architecture. Also explain radio subsystem in mobile radio communication.	REC085.5
5.	Describe the following wireless standards- i) IS 95 ii) IMT 2000	REC085.5
6.	Explain the concept of Li-Fi Communication .	REC085.5
7.	Explain the concept of Mobile satellite communication with the help of neat diagram.	REC085.5
8.	Explain the concept of fourth generation systems? What are the prime features of 4G? Also explain the concept of New Generation Networks.	REC085.5