C **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 56401

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Sixth Semester

Electronics and Communication Engineering

15UEC601-WIRELESS COMMNICAION SYSTEMS

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. In mobile assisted handoff(MAHO) signal strength monitoring is carried out by CO1- R

   (a) Base Station (b) Mobile Unit (c) MSC (d) User

2. Fast fading and Slow fading happens due to CO2- R

   (a) Doppler Spread (b) Multipath time delay spread

   (c) Both (a) & (b) (d) None

3. Quadrature Phase Shift Keying (QPSK) has ---------- the bandwidth efficiency of BPSK. CO3- R

   (a) twice (b) thrice (c) half (d) None of these

4. Equalization process includes CO4 -R

   (a) maximum likelihood sequence estimation (b) equalization with filters

   (c) pseudorandom sequence estimation (d) both (a) and (b)

5. In UMTS the need of handoff for fast moving traffic CO5- R

   (a) Increases (b) Reduces

   (c) Handoff never happens (d) No Change in handoff constrain

PART – B (5 x 3= 15Marks)

6.	Define Co Channel	CO1- R	
7.	What are the various propagation mechanisms in wireless channel.	CO2- R	
8.	Find the 3dB bandwidth of a Gaussian LPF used to produce 0.25 GMSK with a channel data rate of R_b =300kbps	CO3- R	
9.	Draw a basic structure of a linear transversal equalizer.	CO4- R	
10.	List the functions carried out by mobile units in second generation networks.	CO5- R	

PART – C (5 x 16= 80Marks)

11.	(a)	(i) Show how the frequency is efficiently allocated in cellular radio systems	CO1- App	(8)
		(ii) Illustrate how the cell splitting helps to improve channel capacity.	CO1- App	(8)
		Or		
	(b)	Explain the different types of multiple access techniques in detail	CO1- App	(16)
12.	(a)	Examine the factors that influences fading in wireless communication and explain the Fading due to Multipath time delay spread	CO2- U	(16)
		Or		
	(b)	Explain in detail about the two ray ground reflection model for path logs analysis.	CO2- U	(16)
13.	(a)	Infer how the concept of QPSK is utilized in π /4-DQPSK transceiver	CO3- Ana	(16)
		Or		
	(b)	Elaborate the OFDM principle in detail	CO3- Ana	(16)
14.	(a)	Describe in detail about a Generic Adaptive Equalizer..	CO4-U	(16)
		Or		
	(b)	(i) Discuss the concept of diversity.	CO4- U	(8)
		(ii) Write notes on spatial diversity and polarization diversity.	CO4- U	(8)

15.	(a)	Discuss the limitations of Wireless Networking and architecture of Second generation networks	CO5- U	(16)
		Or		
	(b)	Explain GSM architecture and channel types	CO5- U	(16)