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

Question Paper Code: 56401

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

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. The FDMA channel carries _____phone circuit at a time CO1- R

   (a) 10 (b) 2 (c) 1 (d) Several

2. A propagation model that estimates radio coverage of a transmitter is called CO2- R

   (a) Large scale propagation model (b) Small scale propagation model

   (c) Fading model (d) Okumura model

3. PSK system uses a phase shift of CO3- R

   (a) π (b) $\pi/2$ (c) $\pi/4$ (d) 2π

4. Diversity decisions are made by CO4- R

   (a) Receiver (b) Transmitter (c) Adaptive algorithms (d) Channel

5. What is the term used by ITU for a set of global standards of 3G systems? CO5- R

   (a) IMT2000 (b) GSM (c) CSMA (d) EDGE

PART – B (5 x 3= 15 Marks)

6. What are the design consideration requirements for TDMA? CO1- R
7. Define coherence time and coherence Band Width. CO2- R
8. List the salient features of MSK scheme. CO3- R

9.		Define STCM.	CO4- R	
10.		What are the differences between 3G and 4G?	CO5- R	

PART – C (5 x 16= 80 Marks)

11.	(a)	Discuss about technical challenges faced by the wireless communication.	CO1- U	(16)
		Or		
	(b)	Explain SDMA in detail.	CO1- U	(16)
12.	(a)	Describe in detail two path model propagation mechanisms. Derive the expression for total electric field and received power using two ray ground reflections.	CO2- U	(16)
		Or		
	(b)	Explain the fading of a non fading channel for information transmitted from a wireless system.	CO2- U	(16)
13.	(a)	Explain in detail about the principle of offset QPSK and $\pi/4$ DQPSK.	CO3- U	(16)
		Or		
	(b)	Explain OFDM with relevant diagrams.	CO3- U	(16)
14.	(a)	Explain transmit diversity of receiver diversity. Also discuss about beam forming.	CO4- U	(16)
		Or		
	(b)	Explain the different classification of equalization.	CO4- U	(16)
15.	(a)	Elaborate about different wireless systems and standards.	CO5- U	(16)
		Or		
	(b)	Write about the fundamentals of 5G mobile networks and give some applications of 5G networking.	CO5- U	(16)