B.E. Electronics & Telecommunication / Communication Engineering / Electronics Engineering Sixth Semester

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P. Pa Time	iges : e : Thr	2 ree Hor		GUG/W/18/1687 Max. Marks : 80		
	Note	s: 1. 2.	All questions carry equal marks. Illustrate your answers wherever necessary with the help of neat sk	etches.		
1.	a)	What is modulation? Why is high carrier frequency used for modulation. Why is modulation necessary. What are the types of modulation.				
	b)	What that. d _{max}	is line of sight propagation Define radio horizon, for line of sight prop $(Km) = 4\sqrt{ht} + 4\sqrt{hr}$.	bagation, prove 8		
			OR			
2.	a)	Expla	ain the following notes.	8		
		a) .	Atmospheric noise.			
		b)	Cosmic noise.			
		c) '	Thermal agitation noise.			
		d)	Shot noise.			
	b)	What Henc	is signal to noise ratio. What is Noise figure. e derive the expression for noise figure.	8		
3.	a)	What is amplitude modulation. Explain the square law diode modulation technique.				
	b)	What is the concept of single side hand transmission system. Explain the suppressed carrier balanced modulator using transistors.				
			OR			
4.	a)	What demo	is amplitude demodulation. Explain the linear diode detector technique dulation.	e of amplitude 6		
	b)	What	are the factors to be considered for choosing the time constant RC in a	a linear diode. 6		
	c)	Expla	ain the operation of a linear diode detector with Π filter.	4		
5.	a)	Deriv	ve the expressions for frequency modulated wave?	8		
	b)) Explain the operation of FET reactance modulator.				
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a)	Explain the operation of balanced slope detector.			or.	8	
b)	Explain the operation of ratio detector in detail.					
a)	What are the functions of radio receivers? What are the types of radio receiver. What is a super heterodyne receiver. Explain with the help of a block diagram.					
b)	Explain the following terms.					
	i)	Image signal rejection.	ii)	Fidelity.		
	iii)	Selectivity.	iv)	Sensitivity.		
			OI	R		
a)	Explain the following terms with respect to antennas.					
	i)	Directive gain.	ii)	Antenna resistance.		
	iii)	Beam width.	iv)	Polarization.		
b)	What are the different types of antennas. Hence explain the operation of lens antenna.					
a)	Explain sampling theorem.					
b)	Explain generation and demodulation of PWM with waveforms.					
c)	Explain Nyquist criterion.					
			OI	R		
	Write short notes on any two.					
	i)	Time Division multiplexing.			8	
	ii)	Frequency division multiplexing.			8	
	iii)	Delta modulation.			8	
	 a) b) a) b) a) b) a) b) c) 	 a) Exp b) Exp a) Wh b) Exp i) ii) a) Exp iii) b) Wh a) Exp iii) b) Wh a) Exp c) Exp c) Exp iii) iii) iii) 	 a) Explain the operation of balanced slope b) Explain the operation of ratio detector in super heterodyne receiver. Explain with b) Explain the following terms. i) Image signal rejection. ii) Selectivity. a) Explain the following terms with respective gain. iii) Beam width. b) What are the different types of antennas a) Explain sampling theorem. b) Explain Nyquist criterion. i) Time Division multiplexing. ii) Frequency division multiplexing. iii) Delta modulation. 	 a) Explain the operation of balanced slope detect b) Explain the operation of ratio detector in detail a) What are the functions of radio receivers? Whisuper heterodyne receiver. Explain with the heterodyne receiver. Explain figure receiver. Explain with respect to an in the following terms with respect to an in Directive gain. a) Explain the following terms with respect to an in Directive gain. b) What are the different types of antennas. Henerodyne receiver. b) Explain sampling theorem. b) Explain generation and demodulation of PWM of the short notes on any two. i) Time Division multiplexing. ii) Frequency division multiplexing. iii) Delta modulation. 	 a) Explain the operation of balanced slope detector. b) Explain the operation of ratio detector in detail. a) What are the functions of radio receivers? What are the types of radio receiver. What is a super heterodyne receiver. Explain with the help of a block diagram. b) Explain the following terms. i) Image signal rejection. ii) Fidelity. iii) Selectivity. iv) Sensitivity. a) Explain the following terms with respect to antennas. i) Directive gain. ii) Antenna resistance. iii) Beam width. iv) Polarization. b) What are the different types of antennas. Hence explain the operation of lens antenna. a) Explain generation and demodulation of PWM with waveforms. c) Explain Nyquist criterion. iii Nyquist criterion. ivi Firequency division multiplexing. ii) Time Division multiplexing. iii) Delta modulation. 	
