12/26/11 Code: A-20

JUNE 2008

Code: DE12 **Subject: COMMUNICATION ENGINEERING** Time: 3 Hours Max. Marks: 100

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q. 1. must be written in the space provided for it in the answer book supplied and nowhere else.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16

2.1	Cl	Choose the correct or best alternative in the following:				
	a.	In a communication channel, noise is most likely to affect the signal				
		(A) at the transmitter.(C) at the receiver.	(B) in the channel.(D) both (B) & (C).			
	b.	The value of resistor creating them	mal noise is halved. The noise power generate	ed is		
		(A) halved.	(B) quadrupled.			
		(C) doubled.	(D) unchanged.			
	c.	The modulation index of an AM sign	gnal is decreased from 1 to 0. The carrier po	wer		
		(A) remains unchanged.	(B) gets half.			
		(C) gets doubled.	(D) None of the above.			
	d.	. The percentage of modulation for 60 KHz deviation in the FM broadcast band will be				
		(A) 40	(B) 80			
		(C) 20	(D) 0			
	e.	The S/N ratio in PCM depends or	1			
		(A) sampling rate.	(B) Bandwidth.			
		(C) no. of quantization levels	(D) None of the above			
	f.	in TV broadcasting?				
		(A) VSB	(B) ISB			
		(C) DSB	(D) SSBSC			
	g.	g. The output of the vertical amplifier applied to the yoke in TV receiver consists of				
		(A) direct current	(R) a saw tooth current			

(D) None of the above

(C) a saw tooth voltage.

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h. The VSWR on a transmission line lies between

			(B) 1 to co (D) -1 to +1			
	saving will be					
	i.	If a carrier in 100% modulated AM way (A) 50	(B) 66.6	saving will be		
			(D) 75			
			. ,			
	j. Which mode is not possible in rectangle wave guide					
		(A) TM ₀₁	(B) TE_{10}			
		(C) TEM	(D) None of the above			
			ions out of EIGHT Questions.			
		Each question	carries 16 marks.			
Q.2	2 a. Explain thermal noise and noise voltage.			(8)		
	t	Determine the S/N power ratio.	l power of 10W and an output noise po (8)	ower of 0.001W.		
Q.3	a. What is amplitude modulation? Derive a relationship for output of AM transmitter by signal. (8)					
			uency 1500 kHz is amplitude modulaten maximum and minimum modulated car	•		
		(iii) modulation index and amplitude	of each sideband	(8)		
Q.4		a. Draw the block diagram of a operation.	n Armstrong indirect FM transmitter (8)	and describe its		
	b.	Explain the working of balanced slope of	letector using circuit diagram.	(8)		
Q.5	a.	What is ground wave propagation? Des	cribe briefly.	(8)		
	b.	List out the advantages and disadvantage	es of optical fibre communication.	(8)		
Q.6	a.	What is sampling theorem? Explain brief	fly.	(8)		
	b.	Draw the block diagram of PCM system	n and describe each block briefly.	(8)		
Q.7		a. What is transmission line impedar	nce matching? Describe quarter wavele	ength transformer		

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		matching. (8)			
	b.	What is photo detector? Describe PIN diode with the	help of diagram.	(8)	
Q.8	a.	Describe horn antenna.		(8)	
Q.9		Describe the synchronizing pulses used in TV transmiss Draw and explain by way of a block diagram the opera		(8)	(8)
	b.	Write short note on pre-emphasis and deemphasis.		(8)	