Sardar Patel University

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B.Sc. (semester-III) CBCS Examination 2019 Seat No :

28/11/2019, Thursday

Electronics & Communication US03CELC22: Analog Communication Time: 2:00 pm TO 5:00 pm

Maximum Marks: 70

Note: Figures to right indicates the full marks.

Q-1		Multiple Choice Questions.		(10)	
	1.	he very low frequency (VLF) range extends from			
		a) 10-30 KHz	b) 15 KHz		
		c) 25 KHz	d) 50 KHz		
	2.	Man made noise is produced by			
		a) solar eruption	b) arc discharging in electrical machine		
		c) lighting discharge	d) distant stars	,	
	3.	The super high frequency (SHF) range exte			
		a) 10-30 MHz	b) 30-300MHz		
		c) 300-3000MHz	d) 3000-30000 MHz		
-	4.	In a linear diode detector negative peak clipping is the result of due to the			
		a) high value of the time constant RC	b) Not effect on the time constant RC		
		c) low value of the time constant RC	d) none		
	5.	amplifier is mainly used in collector modulation techniques.			
		a)class A	b)class B		
		c)class C	d) class AB		
•	6.	RC capacitive reactance tube behaves as capacitance of value			
		a) CR	b)1/gm		
		c) CR/gm	d) gmCR		
	7.	Varactor diode operates in bias condition.			
		a)reverse	b)zero		
		c)forward	d) none		
	8.	Surface wave propagation is mainly used t			
		a) short wave	b) long and medium wave		
		c) very high frequency	d) none		
	9.	The length of the half wave antenna is			
		a) L=λ/4	b) L=5 λ	•	
		c) L=\(\lambda/2\)	d) L=10 λ		
	. 10.	0. If the antenna is vertical then waves are polarized			
		a) horizontal	b) circular		
		c) elliptical	d) vertical		

Q-2		Answer in short. (Any ten)	(20)
	1.	, and the second requestory modulation.	
	2.	The state of the s	
•	3.	Give the classification of RF spectrum	
	4.	Draw the waveform of frequency modulated carrier voltage.	
	5,	Why we preferred collector modulation then base modulation?	
	6.	Draw the basic circuit of square law diode detector.	
	7.	Draw the characteristics curve of square law diode detector	
	8.	What is the difference between varactor diode and rectifier diode?	
	9.	Mention the method of frequency modulation.	
	10	Explain radiation resistance.	
	11.	What is the application of space wave propagation?	
	12.	Which factor affects to the magnitude of the space wave and surface wave?	
Q-3		Draw the block diagram of Modern electronics communication system and explain its function briefly.	(10)
		OR	
Q-3		Define Amplitude modulation. Derive the mathematical expression for the amplitude modulated voltage with necessary diagram.	(10)
Q-4	(a)	Describe the working of square law diode modulation with proper circuit diagram.	(10)
		OR	
Q-4	(b)	Describe the working of Collector modulation with proper circuit diagram	(05)
	(c)	Describe the working of linear diode detector with proper circuit diagram.	(05)
Q-5	(a)	Draw the circuit of Slope detector and explain its working.	(05)
	(b)	Write a short note on: frequency Modulation using Varactor Diode	(05)
		OR	, ,
Q-5	(c)	Explain method of frequency modulation, and draw the circuit of an R-C capacitive reactance FET and obtain expression for the effective capacitance Ce offered by FET between drain and source terminals.	(10)
Q-6		Explain ground wave propagation with necessary diagrams.	(10)
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. Q-6		Explain function and process of antenna action with necessary diagrams.	(10)
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