

Day and Date:day, .../.../2022

Seat No :

Time: ----- to -----

Max. Marks- 50

OBJECTIVE

Unit 1		3 questions of 2 marks each	6 marks	20 marks	40%
Unit 2		3 questions of 2 marks each	6 marks		
Unit 3		4 questions of 2 marks each	8 marks		
Unit 4		5 questions of 2 marks each	10 marks	30 marks	60%
Unit 5		5 questions of 2 marks each	10 marks		
Unit 6		5 questions of 2 marks each	10 marks		

		Correct Option	
Q. 1)	The ability of the receiver to select the wanted signals among the various incoming signals is termed as	<input type="checkbox"/>	
	A) Sensitivity		B) Selectivity
	C) Stability		D) None of the above
Q. 2)	In Amplitude Demodulation, the condition which the load resistor R must satisfy to discharge capacitor C slowly between the positive peaks of the carrier wave so that the capacitor voltage will not discharge at the maximum rate of change of the modulating wave (W is message bandwidth and ω is carrier frequency, in rad/sec) is	<input type="checkbox"/>	
	A) $RC < 1/W$		B) $RC > 1/W$
	C) $RC < 1/\omega$		D) $RC > 1/\omega$
Q.3)	The modulation technique that takes the lowest bandwidth among the given	<input type="checkbox"/>	
	A)AM		B)FM
	C)SSB-SC		D)DSB-SC
Q. 4)	Envelope Detector is a/an _____	<input type="checkbox"/>	
	A) Coherent detector		B) Asynchronous Detector
	C) Synchronous Detector		D) Product Demodulator
Q. 5)	What are FM and AM collectively referred together as?	<input type="checkbox"/>	
	A) Modulation		B) Hi-fi Modulation
	C) Fast band modulation		D) Angle modulation
Q. 6)	To encode the information in the carrier signal by altering the wave frequency instantaneously is known as _____	<input type="checkbox"/>	
	A) Amplitude Modulation		B) Frequency Modulation
	C) Phase Modulation		D) None of the above
Q. 7)	Drawbacks of Tuned Radio Receiver are	<input type="checkbox"/>	
	A) Oscillate at higher frequencies		B) Bandwidth of the TRF receiver varies with incoming frequency
	C) Selectivity is poor		D) All of the above
Q. 8)	The minimum nyquist bandwidth needed for baseband transmission of R_s symbols per second is	<input type="checkbox"/>	
	A) R_s		B) $2R_s$
	C) $R_s/2$		D) $R_s/2$

Q. 9)	Which parameter is called as Shannon limit?		<input type="checkbox"/>
	A) PB/N0	B) EB/N0	
	C) EBN0	D) None of the mentioned	
Q. 10)	To satisfy sampling theorem, a 100 Hz sine wave should be sampled at		<input type="checkbox"/>
	A)10 Hz	B) 50 Hz	
	C) 100 Hz	D) 200 Hz	
Q. 11)	The signals which are obtained by encoding each quantized signal into a digital word is called as		<input type="checkbox"/>
	A) PAM signal	B) PCM signal	
	C) FM signal	D) Sampling and quantization	
Q.12)	Quantization noise can be reduced by _____ the number of levels.		<input type="checkbox"/>
	A) Decreasing	B) Increasing	
	C) Doubling	D) Squaring	
Q. 13)	DPCM encodes the PCM values based on		<input type="checkbox"/>
	A) Quantization level	B) Difference between the current and predicted value	
	C) Interval between levels	D) None of the mentioned	
Q. 14)	Adaptive DPCM is used to		<input type="checkbox"/>
	A) Increase bandwidth	B) Decrease bandwidth	
	C) Increase SNR	D) None of the mentioned	
Q. 15)	What is the abbreviation of SQNR?		<input type="checkbox"/>
	A) Signal-to-Quantization Net Ratio	B) Signal-to-Quantization Noise Ratio	
	C) Signal-to-Quantization Noise Region	D) Signal-to-Quantization Net Region	
Q. 16)	Capacity of a channel can be increased by		<input type="checkbox"/>
	A) Increasing channel bandwidth	B) Increasing signal power	
	C) Increasing channel bandwidth & signal power	D) None of the mentioned	
Q. 17)	When pulse code modulation is applied to non-binary symbols we obtain waveform called as		<input type="checkbox"/>
	A) PAM	B) M-ary	
	C) PCM	D) line codes	
Q. 18)	In which waveform logic 1 is represented by half bit wide pulse and logic 0 is represented by absence of pulse?		<input type="checkbox"/>
	A) RZ-AMI	B) Manchester coding	
	C) Unipolar RZ	D) Bipolar RZ	
Q. 19)	Which method should be implemented for reducing bandwidth?		<input type="checkbox"/>
	A) Multilevel signaling	B) Multilevel codes	
	C) PDM	D) PAM	
Q. 20)	The method in which small amount of controlled ISI is introduced into the data stream rather than trying to eliminate it completely is called as		<input type="checkbox"/>
	A) Duo binary signaling	B) Correlative coding	
	C) Partial response signaling	D) All of the mentioned	
Q.21)	Coherent detection of binary ASK signal requires		<input type="checkbox"/>
	A) Phase synchronization	B) Timing synchronization	
	C) Amplitude synchronization	D) Both a) and b)	
Q. 22)	In Binary FSK, mark and space respectively represent		<input type="checkbox"/>
	A) 0 and 1	B) 1 and 0	
	C) 00 and 11	D) 11 and 00	
Q. 23)	The data rate of QPSK is _____ of BPSK.		<input type="checkbox"/>
	A) Same	B) Twice	
	C) Thrice	D) Four times	

Q. 24)	The BPSK signal has +V volts and -V volts respectively to represent		<input type="checkbox"/>
	A) 1 and 0 logic levels	B) 11 and 00 logic levels	
	C) 10 and 01 logic levels	D) 00 and 11 logic levels	
Q. 25)	Why spread spectrum technique is inefficient for a single user?		<input type="checkbox"/>
	A) Fixed null bandwidth	B) Fixed transmission bandwidth	
	C) Large transmission bandwidth	D) Small transmission bandwidth	

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Instructions:

- i. All Questions are compulsory.
- ii. Figure to the right indicate full marks.
- iii. Give suitable general Instructions
- iv. Any other Course Specific Instructions.

BT	CO's	Q. No.		Marks	Weightage
		Q.1	Attempt the following	20	40%
2	CO1	a	With neat sketch explain Low level AM transmitter	7	
3	CO1	b	Interpret Mathematical representation of F.M.	7	
2	CO4	c	Explain Shannon's theorem of information theory	6	
		Q.2	Attempt the following	15	60%
4	CO4	a	Compare phase shift-keying (PSK) and differential phase shift-keying (DPSK).	7	
			OR		
4	CO4	a	Compare FSSS with DSSS	7	
3	CO2	b	Draw a diagram for the modulation of single-sideband (SSB) signal and explain.	8	
		Q.3	Attempt the following	15	
3	CO3	a	Draw eye diagram and explain ISI in detail	7	
4	CO3	b	Differentiate between Uniform and Non-uniform Quantization	8	
			OR		
3	CO2	b	Derive estimation of power spectral density	8	