

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : B.E/ECE	Year / Semester : III / V	Format No.	NAC/TLP-07a.13
Subject Code : EC8501	Subject Name : Digital Communication	Rev. No.	02
Unit No : 2	Unit Name : Waveform Coding & Representation	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1	In uniform quantization process a. The step size remains same b. Step size varies according to the values of the input signal c. The quantizer has linear characteristics d. Both a and c are correct	L2
2	The process of converting the analog sample into discrete form is called a. Modulation b. Multiplexing c. Quantization d. Sampling	L2
3	The modulation techniques used to convert analog signal into digital signal are a. Pulse code modulation b. Delta modulation c. Adaptive delta modulation d. All of the above	L4
4	The sequence of operations in which PCM is done is a. Sampling, quantizing, encoding b. Quantizing, encoding, sampling c. Quantizing, sampling, encoding d. None of the above	L5
5	In PCM, the parameter varied in accordance with the amplitude of the modulating signal is a. Amplitude b. Frequency c. Phase d. None of the above	L1
6	One of the disadvantages of PCM is a. It requires large bandwidth b. Very high noise c. Cannot be decoded easily d. All of the above	L1
7	The expression for bandwidth BW of a PCM system, where v is the number of bits per sample and f_m is the modulating frequency, is given by a. $BW = vf_m$ b. $BW = vf_m$ c. $BW = 2vf_m$	L2

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	d. BW $\frac{1}{2} v f_m$	
8	The error probability of a PCM is a. Calculated using noise and inter symbol interference b. Gaussian noise + error component due to inter symbol interference c. Calculated using power spectral density d. All of the above	L1
9	In Delta modulation, a. One bit per sample is transmitted b. All the coded bits used for sampling are transmitted c. The step size is fixed d. Both a and c are correct	L1
10	In digital transmission, the modulation technique that requires minimum bandwidth is a. Delta modulation b. PCM c. DPCM d. PAM	L3
11	In Delta Modulation, the bit rate is a. N times the sampling frequency b. N times the modulating frequency c. N times the nyquist criteria d. None of the above	L2
12	In Differential Pulse Code Modulation techniques, the decoding is performed by a. Accumulator b. Sampler c. PLL d. Quantizer	L3
13	DPCM is a technique a. To convert analog signal into digital signal b. Where difference between successive samples of the analog signals are encoded into n-bit data streams c. Where digital codes are the quantized values of the predicted value d. All of the above	L1
14	DPCM suffers from a. Slope over load distortion b. Quantization noise c. Both a & b d. None of the above	L1

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15	The noise that affects PCM a. Transmission noise b. Quantizing noise c. Transit noise d. Both a and b are correct	L2
16	The factors that cause quantizing error in delta modulation are a. Slope overload distortion b. Granular noise c. White noise d. Both a and b are correct	L3
17	Granular noise occurs when a. Step size is too small b. Step size is too large c. There is interference from the adjacent channel d. Bandwidth is too large	L1
18	The digital modulation technique in which the step size is varied according to the variation in the slope of the input is called a. Delta modulation b. PCM c. Adaptive delta modulation d. PAM	L5
19	The digital modulation scheme in which the step size is not fixed is a. Delta modulation b. Adaptive delta modulation c. DPCM d. PCM	L1
20	In Adaptive Delta Modulation, the slope error reduces and a. Quantization error decreases b. Quantization error increases c. Quantization error remains same d. None of the above	L1
21	The process of coding multiplexer output into electrical pulses or waveforms for transmission is called a. Line coding b. Amplitude modulation c. FSK d. Filtering	L2

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22	<p>For a line code, the transmission bandwidth must be</p> <p>a. Maximum possible b. As small as possible c. Depends on the signal d. None of the above</p>	L3
23	<p>In polar RZ format for coding, symbol '0' is represented by</p> <p>a. Zero voltage b. Negative voltage c. Pulse is transmitted for half the duration d. Both b and c are correct</p>	L1
24	<p>In a uni-polar RZ format,</p> <p>a. The waveform has zero value for symbol '0' b. The waveform has A volts for symbol '1' c. The waveform has positive and negative values for '1' and '0' symbol respectively d. Both a and b are correct</p>	L5
25	<p>Polar coding is a technique in which</p> <p>a. 1 is transmitted by a positive pulse and 0 is transmitted by negative pulse b. 1 is transmitted by a positive pulse and 0 is transmitted by zero volts c. Both a & b d. None of the above</p>	L1
26	<p>The polarities in NRZ format use</p> <p>a. Complete pulse duration b. Half duration c. Both positive as well as negative value d. Each pulse is used for twice the duration</p>	L1
27	<p>The format in which the positive half interval pulse is followed by a negative half interval pulse for transmission of '1' is</p> <p>a. Polar NRZ format b. Bipolar NRZ format c. Manchester format d. None of the above</p>	L2
28	<p>The maximum synchronizing capability in coding techniques is present in</p> <p>a. Manchester format b. Polar NRZ c. Polar RZ d. Polar quaternary NRZ</p>	L3

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29	<p>The advantage of using Manchester format of coding is</p> <p>a. Power saving b. Polarity sense at the receiver c. Noise immunity d. None of the above</p>	L1
30	<p>Alternate Mark Inversion (AMI) is also known as</p> <p>a. Pseudo ternary coding b. Manchester coding c. Polar NRZ format d. None of the above</p>	L2
31	<p>Formatting is the process which includes</p> <p>a) Pulse code modulation b) Sampling c) Quantization d) All of the mentioned</p>	L3
32	<p>Energy spectral density defines</p> <p>a) Signal energy per unit area b) Signal energy per unit bandwidth c) Signal power per unit area d) Signal power per unit bandwidth</p>	L2
33	<p>Power spectrum describes distribution of _____ under frequency domain.</p> <p>a) Mean b) Variance c) Gaussian d) None of the mentioned</p>	L3
34	<p>Autocorrelation is a function which matches</p> <p>a) Two same signals b) Two different signal c) One signal with its delayed version d) None of the mentioned</p>	L1
35	<p>Autocorrelation is a _____ function.</p> <p>a) Real and even</p>	L1

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	b) Real and odd c) Complex and even d) Complex and odd	
36	A PAM signal can be detected using a) Low pass filter b) High pass filter c) Band pass filter d) All pass filter	L1

