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| 1.Probability of drawing an ace from well shuffled deck of 52 cards is (a)1(b)0(c)1/52(d)1/13 |
|  2.If temperatures of 15rooms are observed to be 50o,55o,56o and,57o for 2, 5,3 and5 rooms respectively, at a point of time, then ensamble average of all the rooms will be(a)50o(b)55.2o(c)56o(d)55.8o. |
| 3.Noise in communication system is proportional to (a) temperature(b) bandwidth(c)Boltzmann constant (d) all(a),(b) and (c) |
| 4.The sampling frequency in Hertz of message signal Xm(t) = cos200πt is(a) 200Hz(b)400Hz(c)100Hz (d) 150Hz**.**. |
|  5.In PCM systems, the sampling is carried on the basis of (a) natural sampling (b) Instantaneous sampling (c) Flat top sampling d) Under sampling |
| 6.If all time averages of a random process is equal to all ensamble averages ,then process (a) stationary in strict sense (b) regular random process in restricted sense (c) Ergodic process (d)non stationary process |
| 7.Probability distribution function for probability density function 3e-6x for x<0 is (a) 3e-6x (b) 0.5e-6x(c) 0.2 e-6x(d) e-3x |
| 8.A signal Xc(t) = 5 cos20x106 πt and noise power is 0.5W at receiver input, The SNR is (a) 40(b)35(c)35.35(d) 40.45 |
| 9.A signal Xm(t) = 4 cos20x103 πt in PCM system is given for quantization,the quantization step size for 8 –levels and 3 bits coding is (a)1V (b)2V (c) 4V (d) none. |
| 10.Quantization error for Delta modulation system is (a) (mp)2/12(b) (mp)2/3(c) (mp)2/8(d)3(mp)2/4 |
| 11.Probability of rolling a die and getting a four on its face is (a)1/2(b)0(c)1/4(d)1/6 |
| 12.The events having equal levels of preferences are called to be (a) equally likely events (b) dependent events (c) mutually exclusive events (d) compound events  |
|  13.External noise adds to------------------- in communication system - (a) Transmitter(b) Channel(c)Receiver (d) IF stage in Receiver |
| 14.The sampling frequency in Hertz of message signal Xm(t) = 2 cos8000πt is(a) 8000Hz(b)4000Hz(c)1000Hz (d) 1500Hz**.**. |
|  15.In PCM systems, the sampling is carried out with 8000samples /second and signal to ratio is 30 dB,the number of bits for encoding PCM signal is (a) 5 (b) 4 (c) 3 (d) 2 |
| 16.If time averages of one random process is equal to time averages of another process ,then process is called to be (a) stationary in strict sense (b) regular random process in restricted sense (c) Ergodic process (d) non stationary process |
| 17.Probability distribution function for probability density function 3e-6|x| for x>0 is (a) 3e-6x (b) 0.5e-6x(c) 0.2 e-6x(d) none |
| 18.QAM uses a combination of (a) FSK & ASK (b) FSK & PSK (c) PSK & ASK (b)AM and FM |
| 19.CPSK is also called to be (a) Frequency shift keying (b) Phase shift keying (c) MinimumFrequency shift keying (d) phase shift keying |
| 20.Probability error for FSK system is (a) 1/2erfc[Eb/2No]0.5(b) 1/2erfc[Eb/2No] (c)1/2erfc[Eb/2No]1.5 (d) 1/4erfc[Eb/2No]0.25 |

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| 21.Define (a) equally likely events (b)Independent event (c) mutully exclusive event (d) Sample space  |
| 22.Briefly explain probability distribution function with the help of frequency function. |
|  **23.**Explain additive white Gaussian Noise with suitable diagram . |
| 24.Explain quadrature phase shift Keying with suitable waveform and constellation diagram. |
| 25.Derive the signal to noise ratio in DSB-SC modulation system. Assume suitable parameters |
| 26.ExplainQAM process wth suitable waveform diagram. |
| 27.Explain PCM system for transmitting a single tone signal with suitable block diagram.  |
| 28.Derive the Signal to noise Ratio for Ordinary Amplitude modulation system. Assume suitable parameters |
| 29.Show that ergodic process is always stationary process**.** |
| 30.Explain Delta modulation with suitable wave form and its block diagram. |
| 31.Briefly explain the threshold effect in frequency modulation system .  |
| 32.Briefly explain time division multiplexing with suitable diagram . what will happen if guard band between two adjacent channels is not sufficient enough. |
| 33.Explain BPSK generator and coherent detector with block diagram**.** |
| 34.Explain PAM, PWM and PPM with suitable wave form diagrams |
| 35.Explain the purpose of Pre-emphasis and De-emphasis in FM system with suitable diagram. |
| 36.Explain minimum frequency shift keying or CPFSK with suitable diagram. |
| 37.Explain the random process with suitable example. |
| 38.Analyse the differential pulse code modulation with its block diagram**.** |
| 39.Find the probability of drawing an ace or a king from a well shuffled deck(a) if the card is replaced before its second draw.(b) if the card is not replaced before its second draw |
| 40.Derive the Signal to noise ratio in PCM system assume required parameters |