| | |
|---|---|
| Q1. | For decoding in convolution coding, in a code tree, |
| Option A | Diverge upward when a bit is 0 and diverge downward when the bit is 1 |
| Option B | Diverge downward when a bit is 0 and diverge upward when the bit is 1 |
| Option C | Diverge left when a bit is 0 and diverge right when the bit is 1 |
| Option D | Diverge right when a bit is 0 and diverge left when the bit is 1 |
| | Diverge upward when a bit is 0 and diverge downward when the bit is 1 |
| | |
| Q2. | According to linearity property, the _____ of two code words in a cyclic code is also a valid code word. |
| Option A | sum |
| Option B | difference |
| Option C | product |
| Option D | division |
| | |
| Q3. | The distance between two code-words is equal to the _____ of the third code-word which is the sum of the first two code-words. |
| Option A | Size |
| Option B | Weight |
| Option C | Minimum distance |
| Option D | Hamming distance |
| | |
| Q4. | The number of k bit shift over which a single information bit influences the encoder output is given by |
| Option A | Code rate |
| Option B | Constraint length |
| Option C | Code length |
| Option D | Code weight |
| | |
| Q5. | When do the conditional density functions get converted into the marginally density functions? |
| Option A | Only if random variables exhibit statistical dependency |
| Option B | Only if random variables exhibit statistical independency |
| Option C | Only if random variables exhibit deviation from its mean value |
| Option D | If random variables do not exhibit deviation from its mean value |
| | |
| Q6. | The distribution function of random variable is |
| Option A | P(X less than or equal to x) |
| Option B | P(X greater than or equal to x) |
| Option C | P(X less than x) |
| Option D | P(X greater than x) |
| | |
| Q7. | Random process is a function of _____ |
| Option A | Random event and time |

| | |
|---|---|
| Option B | Random event and frequency |
| Option C | Random event and real number |
| Option D | None of the mentioned |
| | |
| Q8. | The value of the probability density function of random variable is |
| Option A | Positive function |
| Option B | Negative function |
| Option C | Zero |
| Option D | One |
| | |
| Q9. | The relation between entropy and mutual information is |
| Option A | I(X;Y) = H(X) – H(X/Y) |
| Option B | I(X;Y) = H(X/Y) – H(Y/X) |
| Option C | I(X;Y) = H(X) – H(Y) |
| Option D | I(X;Y) = H(Y) – H(X) |
| | |
| Q10. | The unit of average mutual information is |
| Option A | Bits |
| Option B | Bytes |
| Option C | Bits per symbol |
| Option D | Bytes per symbol |
| | |
| Q11. | In differential encoding the _____ different between two wave forms is measured. |
| Option A | Magnitude |
| Option B | Frequency |
| Option C | Phase |
| Option D | Time period |
| | |
| Q12. | The FSK signal which has a gentle shift from one frequency level to another is called as |
| Option A | Differential PSK |
| Option B | Continuous PSK |
| Option C | Differential & Continuous PSK |
| Option D | Neither Differential nor Continuous PSK |
| | |
| Q13. | The detection method where carrier’s phase is given importance is called as |
| Option A | Coherent detection |
| Option B | Non coherent detection |
| Option C | Coherent detection & Non coherent detection |
| Option D | Neither Coherent detection nor Non coherent detection |
| | |
| Q14. | The maximum synchronizing capability in coding techniques is present in |
| Option A | Manchester format |
| Option B | Polar NRZ |

| | |
|---|---|
| Option C | Polar RZ |
| Option D | Polar quaternary NRZ |
| | |
| Q15. | In Alternate Mark Inversion (AMI) is |
| Option A | 0 is encoded as positive pulse and 1 is encoded as negative pulse |
| Option B | 0 is encoded as no pulse and 1 is encoded as negative pulse |
| Option C | 0 is encoded as negative pulse and 1 is encoded as positive pulse |
| Option D | 0 is encoded as no pulse and 1 is encoded as positive or negative pulse |
| | |
| Q16. | The difficulty in achieving the Nyquist criterion for system design is |
| Option A | There are abrupt transitions obtained at edges of the bands |
| Option B | Bandwidth criterion is not easily achieved |
| Option C | Filters are not available |
| Option D | Maximum bandwidth |
| | |
| Q17. | The method in which the tail of one pulse smears into adjacent symbol interval is called as |
| Option A | Intersymbol interference |
| Option B | Interbit interference |
| Option C | Interchannel interference |
| Option D | Intrasymbol interference |
| | |
| Q18. | If each pulse of the sequence to be detected is in _____ shape, the pulse can be detected without ISI. |
| Option A | Sine |
| Option B | Cosine |
| Option C | Sinc |
| Option D | Rectangle |
| | |
| Q19. | For a M-ary signal or symbol the number of likelihood functions are |
| Option A | M |
| Option B | M+1 |
| Option C | M-1 |
| Option D | 2M |
| | |
| Q20. | Which filter provides maximum signal to noise ratio? |
| Option A | Low pass filter |
| Option B | High Pass filter |
| Option C | Optimum filter |
| Option D | Matched filter |
| | |
| Q21. | Equalization method which is done by tracking a slowly time varying channel response is |
| Option A | Preset equalization |
| Option B | Adaptive equalization |

| | |
|---|---|
| Option C | Variable equalization |
| Option D | Tapped delay equalization |
| | |
| Q22. | Which parameter is called as Shannon limit? |
| Option A | $P_B/N_0$ |
| Option B | $E_B/N_0$ |
| Option C | $E_B/N_0$ |
| Option D | $N_0/E_B$ |
| | |
| Q23. | QAM is a combination of |
| Option A | ASK and FSK |
| Option B | ASK and PSK |
| Option C | PSK and FSK |
| Option D | ASK and MSK |
| | |
| Q24. | For AWGN, the noise variance is |
| Option A | $N_0$ |
| Option B | $N_0/2$ |
| Option C | $2N_0$ |
| Option D | $N_0/4$ |
| | |
| Q25. | Which waveform has the feature of error detection? |
| Option A | NRZ-L |
| Option B | RZ-AMI |
| Option C | Manchester coding |
| Option D | Duobinary |