Program: BE Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester VI

Course Code: ETC601 and Course Name: Digital communication

Time: 1-hour Max. Marks: 50

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Note to the students: - All the Questions are compulsory and carry equal marks.

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| Q1.  | The capacity relationship is given by |
| Option A: | C = W log2 (1+S/N) |
| Option B: | C = 2W log2 (1+S/N) |
| Option C: | C = W log2 (1-S/N) |
| Option D:  | C = W log2 (1+S/N) |
|  |  |
| Q2. |  The method in which the tail of one pulse smears into adjacent symbol interval is called as |
| Option A: | Inter symbol interference |
| Option B: | Interbit interference |
| Option C: | Inter channel interference |
| Option D: | Inter frequency interference  |
|  |  |
| Q3. | In mathematical operation of Matched filter, signal is convolved with \_\_\_\_\_ response of filter. |
| Option A: | impulse |
| Option B: | ramp |
| Option C: | unit |
| Option D: | steady state |
|  |  |
| Q4. | QPSK is a modulation scheme where each symbol consists of |
| Option A: | 4 bits |
| Option B: | 2 bits |
| Option C: | 1 bits |
| Option D: | M number of bits, depending upon the requirement |
|  |  |
| Q5. | In M-ary PSK, as the distance between two bits in a symbol increases, the probability of error |
| Option A: | increases |
| Option B: | decreases |
| Option C: | remain same |
| Option D:  | exponentially increases |
|  |  |
| Q6. | For a systematic linear block code of (7,4) the message bits and parity bits respectively are |
| Option A: | 7,4 |
| Option B: | 4,7 |
| Option C: | 4,3 |
| Option D:  | 3,4 |
|  |  |
| Q7.  | Which of the following codeword is having even parity |
| Option A: | 0110010 |
| Option B: | 1001001 |
| Option C: | 1101110 |
| Option D:  | 0011011 |
|  |  |
| Q8.  | The frequency hopping system uses \_\_\_\_\_\_ modulation scheme. |
| Option A: | FSK |
| Option B: | BPSK |
| Option C: | MFSK |
| Option D:  | MPSK |
|  |  |
| Q9. | The channel encoder adds some redundant bits to the transmitted data for |
| Option A: | padding |
| Option B: | error correction |
| Option C: | adding error |
| Option D:  | increasing BW |
|  |  |
| Q10.  | An effective way to study the effects of ISI is the |
| Option A: | Eye pattern |
| Option B: | Equalizer |
| Option C: | Filter |
| Option D:  | smith chart |
|  |  |
| Q11.  | Matched filters cannot be used for |
| Option A: | To estimate the frequency of the received signal |
| Option B: | In parameter estimation problems |
| Option C: | To estimate the distance of the object |
| Option D:  | increasing the gain |
|  |  |
| Q12.  | In which system, bit stream is partioned into even and odd streams? |
| Option A: | BPSK |
| Option B: | MSK |
| Option C: | QPSK |
| Option D: | FSK |
|  |  |
| Q13. | The constellation diagram of QPSK has \_\_\_\_\_\_ dots. |
| Option A: | 1 |
| Option B: | 2 |
| Option C: | 4 |
| Option D:  | 8 |
|  |  |
| Q14.  | Cyclic property states that when a codeword is rotated |
| Option A: | error is generated |
| Option B: | another codeword is generated |
| Option C: | parity is generated |
| Option D:  | message is generated |
|  |  |
| Q15. | The hamming distance between 00110 and 10111 is |
| Option A: | 2 |
| Option B: | 3 |
| Option C: | 1 |
| Option D:  | 0 |
|  |  |
| Q16.  | The two techniques of spreading the bandwidth are |
| Option A: | FHSS & TDM |
| Option B: | DSSS & FDM |
| Option C: | FHSS & DSSS |
| Option D:  | DSSS & FDM |
|  |  |
| Q17. | The \_\_\_\_\_\_\_ represents the maximum amount of information that can be transmitted by a channel per second. |
| Option A: | channel rate |
| Option B: | channel capacity |
| Option C: | channel length |
| Option D: | channel frequency |
|  |  |
| Q18. | In eye –pattern, the width of the eye opening defines the interval over which the received wave can be sampled without error from \_\_\_\_\_\_\_\_\_ |
| Option A: | noise |
| Option B: | white noise |
| Option C: | jitter |
| Option D:  | intersymbol interference |
|  |  |
| Q19.  | \_\_\_\_\_\_\_\_\_\_\_\_ is used to maximize Signal to noise ratio even for non -Gaussian noise. |
| Option A: | Optimum filter |
| Option B: | Matched Filter |
| Option C: | Coherent receiver |
| Option D:  | Baseband receiver |
|  |  |
| Q20. | Bandwidth of QPSK is \_\_\_\_\_ as compared to that of BPSK. |
| Option A: | Double |
| Option B: | Same |
| Option C: | Thrice |
| Option D: | Half |
|  |  |
| Q21. | MSK exhibits a \_\_\_\_\_\_\_\_\_\_\_ continuity. |
| Option A: | Amplitude |
| Option B: | Phase |
| Option C: | Frequency |
| Option D:  | Noise |
|  |  |
| Q22.  | For (n, k) block codes, rate of the code is defined as \_\_\_\_\_\_\_ |
| Option A: | n/k |
| Option B: | k/n |
| Option C: | k+n |
| Option D:  | n-k |
|  |  |
| Q23. | The Hamming distance between 100 and 001 is \_\_\_\_\_\_\_\_. |
| Option A: | 3 |
| Option B: | 1 |
| Option C: | 2 |
| Option D:  | 0 |
|  |  |
| Q24.  | PN sequence can be generated using \_\_\_\_\_\_\_ circuits. |
| Option A: | sequential logic |
| Option B: | multiplexer |
| Option C: | transistor |
| Option D:  | feedback |
|  |  |
| Q25. | The modulation most affected by noise is  |
| Option A: | ASK |
| Option B: | PSK |
| Option C: | FSK |
| Option D:  | QAM |