Program: BE Electrical Engineering<br>Curriculum Scheme: Revised 2012<br>Examination: Third Year Semester V<br>Course Code: EEC505 and Course Name: Communication Engineering (CE)

Time: 1 hour
Max. Marks: 50


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

| Q1. | Carson's rule is used to calculate |
| :--- | :--- |
| Option A: | Bandwidth of FM signal |
| Option B: | SNR |
| Option C: | Modulation index of FM signal |
| Option D: | Figure of merit |
|  |  |
| Q2. | What will be the effect on power if the modulation index of a frequency <br> modulated signal is increased? |
| Option A: | increases |
| Option B: | Decreases |
| Option C: | remains constant |
| Option D: | first increases and then decreases |
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| Q3. | What is the full form of PPM? |
| Option A: | Pulse-position modulation |
| Option B: | Pulse-pulse modulation |
| Option C: | Position-position modulation |
| Option D: | Position-pulse modulation |
| Q4. | The resonance frequency of an amplifier is 7MHz and it is having a bandwidth of <br> 10 KHz. What is its Q factor? |
| Option A: | 7000 |
| Option B: | 70 |
| Option C: | 700 |
| Option D: | 7 |
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| Q5. | Maximum Amplitude of an amplitude modulated 10V and minimum amplitude is <br> 5 V. Find its modulation index? |
| Option A: | 0.65 |
| Option B: | 0.9 |
| Option C: | 1 |


| Option D: | 0.33 |
| :--- | :--- |
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| Q6. | Which of the following components receives, translates the signal frequency and <br> re-transmits the signal in a satellite? |
| Option A: | Repeater |
| Option B: | Relay |
| Option C: | Transponder |
| Option D: | Transducer |
|  |  |
| Q7. | The relation between entropy and mutual information is |
| Option A: | $\mathrm{I}(\mathrm{X} ; \mathrm{Y})=\mathrm{H}(\mathrm{Y})$ - $\mathrm{H}(\mathrm{X})$ |
| Option B: | $\mathrm{I}(\mathrm{X} ; \mathrm{Y})=\mathrm{H}(\mathrm{X})$ - $\mathrm{H}(\mathrm{Y})$ |
| Option C: | $\mathrm{I}(\mathrm{X} ; \mathrm{Y})=\mathrm{H}(\mathrm{X})$ - $\mathrm{H}(\mathrm{X} / \mathrm{Y})$ |
| Option D: | $\mathrm{I}(\mathrm{X} ; \mathrm{Y})=\mathrm{H}(\mathrm{X} / \mathrm{Y})$ - $\mathrm{H}(\mathrm{Y} / \mathrm{X})$ |
|  |  |
| Q8. | Sine wave is a |
| Option A: | Periodic signal |
| Option B: | Aperiodic signal |
| Option C: | Deterministic signal |
| Option D: | Random signal |
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| Q9. | The technique that may be used to increase average information per bit is |
| Option A: | Shannon-Fano algorithm |
| Option B: | ASK |
| Option C: | Digital modulation techniques |
| Option D: | FSK |
|  |  |
| Q10. | The expected information contained in a message is called |
| Option A: | Entropy |
| Option B: | Efficiency |
| Option C: | Coded signal |
| Option D: | Decoded signal |
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| Q11. | Binary Huffman coding is a |
| Option A: | Prefix condition code |
| Option B: | Suffix condition code |
| Option C: | Prefix \& Suffix condition code |
| Option D: | Cipher Coding |
|  |  |
| Q12. | Noise immunity of ASK is |
| Option A: | Greater than that of FSK |
| Option B: | Less than that of FSK |
| Option C: | Same as that of FSK |
| Option D: | Same as that of PSK |
|  |  |
|  | A constellation diagram defines |


| Option A: | Amplitude of each symbol |
| :--- | :--- |
| Option B: | Amplitude and Frequency of each symbol |
| Option C: | Amplitude and Phase of each symbol |
| Option D: | Frequency of each symbol |
|  |  |
| Q14. | As the bit rate of an FSK signal increases, the bandwidth |
| Option A: | Remains the same |
| Option B: | Decreases |
| Option C: | Increases |
| Option D: | Doubles |
|  |  |
| Q15. | The maximum bandwidth is occupied by |
| Option A: | ASK |
| Option B: | BPSK |
| Option C: | FSK |
| Option D: | DPSK |
|  |  |
| Q16. | One of the following is not the advantage of digital system |
| Option A: | Less noise |
| Option B: | simple circuit |
| Option C: | more flexible |
| Option D: | less interference |
|  |  |
| Q17. | What is a fundamental period? |
| Option A: | Every interval of a periodic signal |
| Option B: | Every interval of an aperiodic signal |
| Option C: | The first interval of a periodic signal |
| Option D: | The last interval of a periodic signal |
|  |  |
| Q18. | Spectrum signal can be obtained by applying |
| Option A: | Fourier transform |
| Option B: | Norton's theorem |
| Option C: | BIBO stability |
| Option D: | KVL |
|  |  |
| Q19. | Which corrects the sampling time problem in a digital system? |
| Option A: | Interpolator |
| Option B: | Equalizer |
| Option C: | Decimator |
| Option D: | Filter |
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| Q20. | cyclic codes are subset of the |
| Option A: | Linear code |
| Option B: | block code |
| Option C: | state code |
| Option D: | code word |


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| :--- | :--- |
| Q21. | The code in convolution coding is generated using |
| Option A: | EX-OR logic |
| Option B: | AND logic |
| Option C: | OR logic |
| Option D: | NOR logic |
|  |  |
| Q22. | cyclic codes are well suited for |
| Option A: | Minimum distance |
| Option B: | error detection |
| Option C: | error reduction |
| Option D: | error distribution |
|  |  |
| Q23. | The block codes in which the message bits are transmitted in unaltered form is <br> called as |
| Option A: | Systematic code |
| Option B: | Code words |
| Option C: | nonsystematic code |
| Option D: | binary code |
|  |  |
| Q24. | In Binary Phase Shift Keying system, the binary symbols 1 and 0 are represented <br> by carrier with phase shift of |
| Option A: | ח/2 |
| Option B: | ח |
| Option C: | $2 \Pi$ |
| Option D: | 0 |
|  |  |
| Q25. | In an optical fiber, the concept of Numerical aperture is applicable in describing <br> the ability of <br> Option A: <br> Light Collection <br> Option B: |
| Light Scattering |  |
|  | Light Dispersion |
|  | Light Polarization |

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| Question | Correct Option <br> （Enter either＇$A$＇or＇$B$＇or ＇$C$＇or＇$D$＇） |
| :---: | :---: |
| Q1． | A |
| Q2． | C |
| Q3． | A |
| Q4 | C |
| Q5 | D |
| Q6 | C |
| Q7 | C |
| Q8． | A |
| Q9． | A |
| Q10． | A |
| Q11． | A |
| Q12． | B |
| Q13． | C |
| Q14． | C |
| Q15． | C |


| Q16. | B |
| :--- | :--- |
| Q17. | C |
| Q18. | A |
| Q19. | A |
| Q20. | A |
| Q21. | A |
| Q22. | B |
| Q23. | A |
| Q24. | B |
| Q25. | A |

