**EC 2311 - COMMUNICATION ENGINEERING**

(Regulation 2008)

(QUESTION BANK FOR UNIT-I AND UNIT-II)

**UNIT-I ANALOG COMMUNICATION**

2 MARKS:

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| 1. Define amplitude Modulation. |
| 1. Mention the types of Communication. |
| 1. State Carson rule. 2. Define image frequency. 3. Define High side injection tracking. 4. What are the disadvantages of conventional (or) double side band full carrier system? 5. Define Single sideband suppressed carrier AM. 6. Define instantaneous frequency deviation. |
| 1. Give the equation for image frequency rejection ratio. |
| 1. List out the advantages of Super Heterodyning Receiver. |
| 1. A 300W carrier is AM modulated to a depth of 75%.Calculate the total power of the modulated wave. 2. Define tracking error. How it is reduced. |
| 1. What is the use of Demodulator? |
| 1. How instantaneous frequency deviation occurs? |
| 1. Differentiate between AM and FM. |
| 1. Mention the application of SSB. 2. A 500W carrier is AM modulated to a depth of 70%.Calculate the total power of the modulated form DSBSC of AM. 3. What is the modulation index of FM? 4. Define Heterodyning. 5. Define AM Vestigial sideband.   16 marks   1. Explain the general communication system with a neat block diagram. 2. With a neat block diagram explain super heterodyne receiver. 3. Write a note on (i) AM Detector (ii) Double sideband-suppressed carrier. 4. Discuss the indirect method of generating the FM or Armstrong method. 5. Discuss about the Classification of pulse modulation 6. Draw the block diagram for generation and demodulation of a VSB signal and explain the principle of operation. 7. (i)Discuss the advantages, disadvantages and application of AM.   (ii)Discuss the AM Modulator circuits with neat diagram.   1. With the help of a neat circuit diagram, explain the generation of DSB-SC-AM and List out its Merits and Demerits. 2. (i) When super heterodyne receiver is tuned of 555 kHz, its local oscillator input to the mixer is 1010kHz.what is the image frequency?   (ii)With neat circuit diagram, explain the low level AM Modulator with output waveforms.   1. (i)Compare narrow band and Wideband FM systems   (ii)How does phase shift method efficiently suppress the unwanted side band? Explain with diagram  **UNIT – II DIGITAL COMMUNICATION**  2 MARKS  1. Define Pulse modulation.  2. What is sampling process?  3. State sampling theorem.  4. List out the applications of FSK  5.Explain adaptive delta modulation  6. List out the merits and demerits of axial cable.  7. Illustrate sky waves and virtual height.  8. Define propagation constant.  9. Mention the disadvantages of ground wave propagation.  10. Specify standing wave and critical frequency.  11. State Nyquist rate of signal f(t)=sin(200t).  12. When the granular noise occurs?  13. Why non-uniform quantization is preferred for most of the practical  purpose?  14. Write the function of encoder.  15. Define Companding.  16. Write the different type of compressor characteristics.  17. How can we reduce the slope overload distortion?  18. Derive the BW of BPSK.  19. Define Aliasing.  20. Write the types of sampling method.  16 MARKS  1. With neat sketch explain ground wave propagation and line of sight propagation.  2. (i) A PCM system uses a uniform quantizer followed by 7 bit encoder. The system bit rate is 50Mbits/sec. calculate sampling frequency and transmission bandwidth.  (ii)Explain the working principle of ASK modulator and detector with neat diagram.  3. With a neat block diagram explain the PAM modulation and demodulation process and drive the expression for PAM wave and depth of modulation.  4. (i)Compare MSK and QPSK .What is the bandwidth requirement of MSK.  (ii)Explain how FSK signal is transmitted. Explain the various detection techniques available for FSK.  5. (i)Explain the generation and detection of PWM with neat diagram.  (ii)Give the comparison of PAM, PWM and PPM systems.    6. Discuss about quantization noise distortions in DM systems.    7.Write short notes on applications of data communication  8.With a neat block diagram explain the process of generating DPCM signal and explain how the signal is recovered at the recovered at the receiver  9. With neat diagram, explain the operation of GMSK.    10.With neat block diagram, explain the process of ADM Transmitter and Receiver with waveform representation and list out the advantages of ADM. |