ELECTRONICS ENGINEERING

ASSIGNMENT-05

Communication Systems

Note : Write answers for any FIVE questions

Q1 . What do you mean by a Signal Representation

Or

Write short note on (i) Graphical representation (b) Mathematical representation (c) Tabular Representation

Or

What is the difference between time domain and frequency domain representation of signals

Or

What is the difference between discrete and digital signals

Or

Explain classification of signals

Q2: What do you mean by electromagnetic spectrum. Discuss application of each band in this spectrum

Q3: What is need of modulation?

Q4: Represent following signals graphically (i) $x(t) = \delta(t)$ (ii)$x(n) = \{4,\ 3,\ 2,\ 1,\ 2,\ 3,\ 4\}$

Q5: Write short note on (a) Cellular communication (b) Satellite communication (c) CDMA (d) uplinking and downlinking in RADAR

Q6 : A carrier of 10V peak and frequency of 100 KHz is amplitude modulated by sin wave of 4V peak and frequency 1000Hz. Determine the modulation index for the modulated wave and draw the amplitude spectrum.

Q7. An Audio frequency signal of $10 \sin 2\pi \times 500\ t$ is used to amplitude modulate a carrier of $50 \sin 2\pi \times 10^5$. Calculate

a. Modulation index
b. Sidelobe frequencies
c. Amplitude of each sidelobe frequencies
d. Bandwidth required

e. Total power delivered to the load of 600 Ω

f. Transmission efficiency