4E4164

B.Tech. IV-Sem (Main & Back) Exam; June-July 2016
Computer Science & Engineering
4CS5A Principles of Communication
Common with CS, IT

Time: 3 Hours

Maximum Marks: 80
Min. Passing Marks (Main & Back): 26
Min. Passing Marks (Old Back): 24

Instructions to Candidates:-

Attempt any **five questions**, selecting **one question** from **each unit**. All Questions carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.

Units of quantities used/ calculated must be stated clearly.

Use of following supporting material is permitted during examination.

(Mentioned in form No.205)

1. NIL _____   2. NIL _____

UNIT-I

Q.1 (a) Explain in detail VSB? [8]

(b) A 400 Watt carrier is modulated to a depth of 75 percent. Calculate the total Power in the modulated wave? [8]

OR

Q.1 (a) Explain in detail Pre – emphasis and De – emphasis? [8]

(b) Find the carrier and modulating frequencies, the modulation index and maximum deviation of the FM wave represented by the voltage equation

$V = 12 \sin (6 \times 10^8 t + 5 \sin 1250t)$. [8]

UNIT-II

Q.2 (a) Write short note on sampling theorem? [8]

(b) Explain in detail PAM, PWM Modulation schemes? [8]

OR

Q.2 (a) Write short notes on Aliasing and interpolation? [8]

(b) Explain Time division Multiplexing? [8]

UNIT-III

Q.3 (a) Compare PCM and delta Modulation? [8]

(b) Write short note on TL carrier System? [8]

OR

Q.3 (a) Explain in detail ADM? [8]

(b) Explain DPCM? [8]

UNIT-IV

Q.4 (a) Write short note on raised cosine Spectrum? [8]

(b) Explain ASK, FSK in detail? [8]

OR

Q.4 (a) Write short note on Inter Symbol Interference? [8]

(b) Explain in detail QPSK and MSK? [8]

UNIT-V

Q.5 (a) Explain CDMA in detail? [8]

(b) Find the Processing gain of the system when data rate is 7.8 Kbps and the spread or chip rate is 9.6 Mbps. BPSK technique used for modulation? [8]

OR

Q.5 (a) Explain the DSSS and FHSS? [8]

(b) Write short notes on PN Sequence and CDMA? [8]