

04/07/2016

4E4164

Roll No. _____

Total No of Pages: **2**

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