Code: R7310505

R07

III B. Tech I Semester (R07) Supplementary Examinations, May 2012
DATA COMMUNICATION SYSTEMS
(Common to CSE & IT)

Time: 3 hours   Max Marks: 80

Answer any FIVE questions
All questions carry equal marks
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1 (a) Define data communication standards and explain why they are necessary.
   (b) Define digital modulation. Give a brief description of amplitude-shift keying, frequency-shift keying and phase-shift keying.

2 Describe the following types of metallic transmission lines: open-wire, twin lead, twisted-pair, unshielded twisted pair, shielded twisted pair and coaxial transmission lines.

3 (a) Determine the minimum number of PCM bits (including the sign bit) for a dynamic range of 80 dB.
   (b) Define digital line encoding. Explain the factors to be considered while selecting a line-encoding format.

4 Define terrestrial waves and terrestrial radio communication. What are the modes of propagating electromagnetic waves within earth's atmosphere? Explain each in detail.

5 (a) Describe the transmission characteristics of a local subscriber loops.
   (b) Describe two-wire and four-wire circuit arrangements.

6 (a) Explain AMPS control channels.
   (b) Explain AMPS identification codes.

7 (a) What is meant by character synchronization?
   (b) Describe what is meant by discrete bar code and continuous bar code.
   (c) Determine the residue checksum for the following five-character ASCII message TABLE.

8 (a) Describe and differentiate character- and bit-oriented protocols.
   (b) Describe how BSC achieves transparency.

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