Code: 9A12302

R09

II B. Tech I Semester (R09) Supplementary Examinations, May 2012
DATA COMMUNICATION SYSTEMS
(Information Technology)

Time: 3 hours   Max Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1   (a)   Define the terms bandwidth efficiency and carrier recovery.
     (b)   Distinguish between probability of error and bit error rate

2   (a)   Outline the primary building blocks of a fiber optic system.
     (b)   List the disadvantages of optical fiber cables.

3   (a)   Describe the T1 carrier system.
     (b)   What is frame synchronization? How is it achieved in a PCM-TDM system?

4   (a)   State and explain inverse square law.
     (b)   Describe diffraction and explain Huygens's principle.

5   Explain in detail about the basic telephone call procedures.

6   (a)   Briefly describe the purpose of the IS-41 protocol standard.
     (b)   Define and describe cellular telephone network components.

7   (a)   What is redundancy checking? Explain the different types of redundancy checking.
     (b)   How many hamming bits are required for a 13 bit character? Explain with example.

8   (a)   What is meant by bell system-compatible modems?
     (b)   Explain the modem operational modes: local command mode, handshake mode, on-line mode, off-line mode.

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