

R07**Code: R7221503**

B.Tech II Year II Semester (R07) Supplementary Examinations, April/May 2013

DATA COMMUNICATIONS SYSTEMS

(Computer Science & Systems Engineering)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

1. (a) Briefly explain layered network architecture with a neat diagram.
(b) Write a short note on digital modulation.
2. (a) What is electromagnetic wave and explain its characteristics?
(b) What are the advantages and disadvantages of optical fiber cables?
(c) Write a short note on electromagnetic spectrum.
3. (a) Differentiate:
(i) Linear versus nonlinear PCM codes (ii) Delta modulation PCM versus differential PCM.
(b) Write a short notes on:
(i) Frame synchronization (ii) Synchronous optical networks.
4. Define:
(a) Inverse square law.
(b) Wave attenuation.
(c) Electromagnetic polarization.
(d) Skip distance.
5. (a) Write a short note on paging systems.
(b) Write a short note on:
(i) Transmission parameters (ii) Private-line circuits.
6. Briefly explain the following:
(a) First-Generation analog cellular telephone.
(b) Second-Generation cellular telephone systems.
7. Explain:
(a) Character codes.
(b) Error correction codes.
(c) Synchronous voice band modems.
8. (a) Differentiate character and bit oriented protocols.
(b) What are the functions of data link protocol?
