

Code: 9A12302

B.Tech II Year II Semester (R09) Supplementary Examinations December/January 2015/2016

DATA COMMUNICATION SYSTEMS

(Information Technology)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Give a brief description of the evolution of data communications.
(b) Define digital modulation. Give a brief description of frequency shift keying.
- 2 (a) Explain the characteristics of electromagnetic waves.
(b) What properties of a transmission line determine its characteristic impedance?
- 3 Clearly explain about the pulse code modulation (PCM).
- 4 (a) Describe ground wave propagation, space wave propagation and sky wave propagation.
(b) Contrast the advantages and disadvantages of microwave radio communications.
- 5 (a) List and briefly describe the essential components of a standard telephone set and describe the steps involved in completing a local telephone call.
(b) Briefly describe C-message noise weighting and state its significance.
- 6 (a) Explain the term handoff and give the differences between a soft and hard handoff.
(b) What is meant by a first generation cellular telephone system? Explain.
- 7 (a) Determine the CRC generating polynomials for the following data:
 $G(x) = x^7 + x^4 + x^2 + x^0$
 $P(x) = x^5 + x^4 + x^1 + x^0$
(b) Give a brief explanation of the Hamming code.
- 8 (a) What is meant by the terms data terminal equipment and data communication equipment?
(b) Describe the basic functions of voice-band data communication modem
