D 42098 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2007

Computer Science Engineering

CS/PTCS/IT 2K 504—DIGITAL DATA COMMUNICATION

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

1. (a) What is distortion in Data Communication ? Explain what are its types.
   (b) Define Modulation. Explain its need in data communication.
   (c) What is Hamming Codes ? Explain its properties.
   (d) What is pulse compressions ? What are the methods for pulse compression ? Explain its need.
   (e) Explain the basics of protocol.
   (f) Explain in detail about link management.
   (g) What are data link control protocols ? Explain.
   (h) Discuss in detail about LAPB protocol.

   (8 × 5 = 40 marks)

2. (a) Discuss in detail how attenuation and distortion limits the information carrying capacity of transmission medium with examples. (15 marks)

   Or

   (b) (i) Define and explain DTE and DCE. (8 marks)

   (ii) Explain in detail principle of multiplexing with neat sketches in a Data Communication network. (7 marks)

3. (a) (i) Explain in detail the principle of facsimile compression with neat sketches. (8 marks)

   (ii) Derive the algorithm of Huffmann coding. (7 marks)

   Or

   (b) (i) Explain the principle of block sum check with an example. (8 marks)

   (ii) Explain the significance of coding in data transmission. (7 marks)

4. (a) (i) Explain in brief about piggy backing. (8 marks)

   (ii) Describe in brief about sliding window protocol. (7 marks)

   Or

   (b) (i) Differentiate synchronous transmission from asynchronous mode transmission. (8 marks)

   (ii) Give an account on selective repeat and Go-back N protocol. (7 marks)

Turn over

5. (a) (i) Differentiate Vertical Redundancy Check (VRC) from Longitudinal Reductancy Check (LRC) method of error detection. (8 marks)

(ii) Give an account on "HDLC" protocol. (7 marks)

Or

(b) Write short notes on : (8 marks)

(i) Sliding window protocol. (7 marks)

(ii) Duplex protocols.

[4 × 15 = 60 marks]