BTS 186(C)

B.Tech Degree VI Semester (Supplementary) Examination in Computer Science and Engineering, December 2002

CS 604 DATA COMMUNICATION
(1998 Admissions)

Time: 3 Hours   Max. Marks: 100

I.   (a) Explain the three basic types of communication networks in service.   (10)
     (b) Briefly explain the structure of a computer communication network.   (5)
     (c) Differentiate between synchronous and asynchronous transmission.   (5)
                                            OR
II. (a) Explain the various routing procedures used in a computer network.   (10)
     (b) Write short notes on:
               (i)   ISDN
               (ii)   Split stream modem   (2 x 5 = 10)

III. (a) Explain the various pulse modulation techniques.   (10)
     (b) What are the advantages of digital communication over analog communication ?   (5)
     (c) Briefly explain the features of optical fibre communication.   (5)
                                            OR
IV.   Write short notes on :
               (i)   band rate and band width
               (ii)   Synchronous voice grade modem
               (iii) line conditioning
               (iv)   PAM   (4 x 5 = 20)

V.   (a) Briefly explain the code generation in convolutional coding.   (5)
     (b) Write short notes on :
               (i)   Parity check
               (ii)   Hamming code
               (iii) Cyclic Redundancy Code (CRC)   (3 x 5 = 15)
                                            OR
VI. (a) Explain the different types of ARQ implementation in error control procedure.   (10)
     (b) Give the bit patterns for the following polynomials
               (i) $X^3 + X + 1$
               (ii) $X^4 + X^2$ (5)
     (c) Draw the a shift register with feed back taps to implement the polynomial $X^3 + X + 1$. (5)

VII. (a) Differentiate between synchronous and statistical TDM.   (10)
     (b) Write short notes on :
               (i)   FDM
               (ii)   Inverse multiplexing   (2 x 5 = 10)
                                            OR
VIII.(a) What are the different approaches for positioning remote multiplexers and concentrators. (5)
     (b) Differentiate between TDM & FDM .   (10)
     (c) Explain briefly about message & packet switching concentration.   (5)

IX. (a) Why do we use polling ?   (2)
     (b) Explain the various polling methods used in data communication system.   (10)
     (c) Explain the different security measures used in networks.   (8)
                                            OR
X.   (a) Explain briefly about the line around time taken in different types of communication
          systems.   (10)
     (b) Write short notes on :
               (i)   SDLC
               (ii)   BSC protocol.   (2 x 5 = 10)

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