

Total No. of Questions—8]

[Total No. of Printed Pages—2

Seat No.	
-------------	--

[5352]-179

S.E. (Information Technology) (II Sem.) EXAMINATION, 2018
FOUNDATION OF COMPUTER NETWORKS
(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Assume suitable data, if necessary.

(ii) Neat diagrams must be drawn wherever necessary.

- Q1** a) Explain various transmission impairments in data communications. [4]
- b) Explain the Nyquist Theorem and solve the following: Television channels are 6 MHz wide. How many bits/sec can be sent if 4 level digital signals are used? Assume a noiseless channel. [4]
- c) What are the different performance factors of data communication [4]

OR

- Q2** a) Explain Manchester Encoding schemes with the help of diagram [6]
- b) What is serial transmission? Explain synchronous & asynchronous transmission. [6]
- Q3** a) Explain in detail Analog to digital conversion Scheme. [7]
- b) Explain the Packet Switching and Circuit Switched Network. What are the three phases of it? [6]

OR

- Q4** a) Explain OSI reference model of TCP/IP in detail [5]
- b) Explain Bus Backbone Network with diagram. [4]
- c) What are different connecting devices? Explain in brief each [4]

P.T.O.

- Q5** a) What is block Coding and explain in brief [4]
b) Discuss the concept of redundancy in error detection and correction. [4]
c) What is CRC? Generate the CRC code for message 1101010101. Given generator polynomial $g(x) = 10101$ [5]

OR

- Q6** a) Explain stop and wait ARQ, Go Back-N ARQ and Selective repeat ARQ. Comment on the performance of each. [8]
b) What is hamming distance? Explain with example. Explain simple parity check code. [5]
- Q7** a) Explain CSMA/CD and CSMA/CA protocols used in LAN's [6]
b) Explain various stations types and configurations used in HDLC. [6]

OR

- Q8** a) Explain CDMA, FDMA and TDMA. [4]
b) Describe different controlled access protocol mentioned below: [4]
i. Reservation
ii. Polling
c) Differentiate between Pure Aloha and Slotted Aloha. [4]