Total No. of Questions : 4]

SEAT No. : ____

PA-28

[Total No. of Pages : 2

[5931]-39

S.E. (Information Technology)

(214445): BASICS OF COMPUTER NETWORK

(2019 Pattern) (Semester - I)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates :

1) ***Answer Q1 or Q2, Q3 or Q4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) Draw ISO/OSI model and explain functions of following layers : **[5]**

i) Physical

ii) Data link

iii) Network layer

b) List and explain different types of Transmission Impairment. **[5]**

c) Encode the following binary stream [1 0 1 0 0 0 1 1 0] into NRZ-L, NRZ-I. **[5]**

OR

Q2) a) Explain different addressing schemes in TCP/IP model. **[5]**

b) What is mean by Delta Modulation? Explain Distortion in Delta Modulation. **[5]**

c) Write a short note on Bus topology & Star topology. **[5]**

P.T.O.

Q3) a) What is CRC? Generate the CRC code of message 1101011101. Given generator Polynomial $g(x) = x^3 + x^2 + 1$. **[5]**

b) Explain the working mechanism of **[5]**

i) Go back-N ARQ

ii) Selective Repeat ARQ

c) What is hamming code? Also find Hamming Code word for following Data word 1001011 using even parity. **[5]**

OR

Q4) a) Explain with example fixed-size framing and variable size framing. **[5]**

b) Explain Two dimensional parity check. **[5]**

c) Discuss the concept of redundancy in error detection and correction. **[5]**

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