Total No. of Questions : 4]

SEAT No. :

P-5405

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S.E. (Information Technology) (Insem.)

BASICS OF COMPUTER NETWORK

(2019 Pattern) (Semester - III) (214445)

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

Instructions to the candidates :

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

Q1) a) Explain the data communications system with its five components and discuss the fundamental characteristics of data communication system. **[5]**

b) Write a short note on Bus Topology & Star Topology. **[5]**

c) Differentiate Frequency Division Multiplexing and Time-Division Multiplexing. **[5]**

OR

Q2) a) Write short note on Analog Signals and Digital Signals with the help of waveforms. **[5]**

b) Explain Nyquist theorem with suitable example. **[5]**

c) Explain TCP/IP protocol suite with layered architecture. **[5]**

Q3) a) Describe in detail Internet Checksum method with suitable example. **[5]**

b) Demonstrate following Error detection methods with suitable example: **[5]**

i) Parity Checks

ii) Hamming code

c) Explain in detail Go-Back-N and Selective Repeat ARQ system. **[5]**

OR

P.T.O.

Q4) a) Describe following types of framing methods **[5]**

i) Character Count

ii) Bit stuffing

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

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

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