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B033314(033)

B. Tech. (Third Semester) Examination, Nov.-Dec. 2020

(New Scheme)

COMPUTER NETWORKS

Time Allowed : Three hours

Maximum Marks : 100

Minimum Pass Marks : 35

*Note : All questions are compulsory. Part (a) is compulsory from each unit and carries 4 marks. Attempt any **two** parts from (b), (c) and (d). Each part carries 8 marks.*

Unit-I

1. (a) What are the applications of Computer Networks?

   (b) Define computer networks? Discuss various types of networks topologies in computer network. Also

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discuss various advantages and disadvantages of each topology.

(c) What is OSI Model? Explain the functions, protocols and serivces of each layer.

(d) Explain the following transmission media. Twisted pair, coaxial cable and fiber optics.

Unit-II

2. (a) What is Multiplexing?

(b) Discuss about physical properties of Ethernet 802.3 with necessary diagram of Ethernet transceiver.

(c) Explain different error detection and correction mechanisms with examples.

(d) Explain CSMA/CD and protocols with collision detection and Avoidance.

Unit-III

3. (a) Define Masking.

(b) Explain :

(i) Repeater

(ii) Bridge

(iii) Router

(iv) Gateway

(c) What is IP addressing method and write the difference between IPv4 and IPv6.

(d) Write short notes on :

(i) Distance vector routing

(ii) Link state routing

Unit-IV

4. (a) What is segmentation?

(b) Write the difference between UDP & TCP protocols.

(c) What is the function of X·25? Explain in detail.

(d) Write short notes on ATM?

Unit-V

5. (a) What is Cryptography?

(b) What is network security explain in detail.

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(c) What is meant by cryptography explain with the help of suitable examples.

(d) Explain detail about Domain Name System