Printed Pages – 4 CS – 602

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 1036 Roll No. 0 2 0 3 3 3 3 0 4 8

B.Tech

SIXTH SEMESTER EXAMINATION, 2005-2006

COMPUTER NETWORKS

Time : 3 Hours *Total Marks : 100*

Note : *(i) Answer **ALL** questions.*

(ii) All questions carry equal marks.

002940

1. Attempt *any four* parts of the following : **(5x4=20)**

(a) Give the original OSI model by DOD (USA) and compare it with IEEE one on the basis of job done by each layer with diagram.

(b) Describe the access method used by Ethernet (IEEE) network, and the cable and connectors used by Ethernet network.

(c) Specify the difference between the Switch and Hub on the basis of broadcast and collision domain. Mention benefits of switches over hubs.

(d) Write short notes on :

(i) Topology

(ii) Bridge

(iii) Gateway

(iv) ISDN

(v) Connection oriented and Connection less

(vi) Terminal Handling.

(e) Mention the properties of Fiber Optics cable. Discuss it's merits and demerits. Why is it employed for backbones.

(f) Explain the working of Transport, Session, Presentation and Physical layer of OSI model given by IEEE.

2. Attempt *any four* parts of the following : **(5x4=20)**

(a) Discuss the role of protocols in LAN technology with examples.

(b) Describe the working and operation of Data Link Layer for IEEE OSI model.

(c) Discuss advantages and disadvantages of FDDI and Ethernet LAN Technologies.

(d) Describe the principles of Application layer protocols.

(e) Discuss the MAU and CAU and the technology in which these are used.

(f) Describe the various technologies (each in brief) that can be used to form a LAN.

3. Attempt *any four* parts of the following : **(5x4=20)**

(a) Why do we use subnet mask ? Perform the sub-netting of the following :

IP Address 160.111.x.x

Original Subnet mask 255.255.0.0

Amount of subnets 6(six)

(b) Differentiate between the static and dynamic routing with their pros and cons. Give example of some routing protocols used in both type of routing.

(c) Give the brief Introduction of IPv6 and IPv4 addressing with example and draw the format figure of IPv6 datagram.

(d) Describe the utility, need and working of point-to-point networks and protocols used. Illustrate with the help of an example.

(e) What do you mean by next hop forwarding ? Discuss the OSPF,RIP and IGRP in brief with their limitations.

(f) Discuss the TCP/IP Protocol suite on the basis of Protocol lairing principle.

4. Attempt *any four* parts of the following : **(5x4=20)**

(a) Discuss the working and major difference between TCP and IP. Compare them on these basis.

(b) Write an Algorithm used to encrypt data over the network except RSA.

(c) Discuss close, bind, listen and accept procedures used in socket implementation.

(d) Describe at least four major tasks performed by TCP in favour of Network application.

(e) Describe the role of RPC in networking with suitable examples.

(f) Describe retransmission, flow control, simplex, half duplex and full duplex transmission terms.

5. Attempt *any two* parts of the following : **(10x2=20)**

(a) What are the uses of IMAP and POP ? Describe the major difference between them and compare on the basis of their working.

(b) What do you understand by Network Management ? As a Network Administrator how would you design infrastructure (ability to control, monitor, and test. Poll, configure) Hardware and Software components in a large network environment.

(c) Discuss the following terms :

SMTP, Aliases, MTP, Lists, Forwarders, Mail Exploders, Mail relaying.

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