53 (IT 821) INPT

2017

INTERNET PROTOCOL

Paper : IT 821 (Back)

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions out of **seven**.*

1. (a) Discuss in detail about TCP/IP protocol suit. Compare the OSI model with TCP/IP model. 5+5

   (b) Describe the concept of Piconet and Scatternet. 6

   (c) Define intradomain and interdomain routing. 4

2. *(a)* What do you mean by "Hidden and Exposed station problems" ? How these problems can be solved ?   4+6

   (b) Distinguished between connectionless and connection oriented networks. Which is reliable network connection justify ?   4+4

   (c) What is ARP cache ?   2

3. *(a)* What is purpose of DNS server ? How it manages the constantly growing domain name spaces ?   4+4

   (b) What is ARP ? What is its functionality ? How does it differ from RARP ?   6

   (c) IP is unreliable, best-effort, connectionless protocol. Justify your answer.   6

4. *(a)* Explain the datagram format of TCP. List out its commonalities and differences with UDP protocol.   7+5

   (b) What is DHCP ? How does it differ from BOOTP ?   4+2

(c) To provide more subnets, a class B address is assigned the subnet mark 255.255.248.0. How many subnets are possible ? 2

5. *(a)* An organization has a class *C* network 192.168.10.0 and wants to form subnets for four departments A, B, C, D with host requirments as follows :

A = 72 Hosts

B = 35 Hosts

C = 20 Hosts

D = 18 Hosts

Use variable length subnet marking (VLSM) and subnet the network according to requirement given above. 8

(b) What is the class of each of the following addresses ? 5

(i) 4.23.145.90

(ii) 227.34.78.7

(iii) 29.6.8.4

(iv) 198.76.9.23

(v) 246.7.3.8

(c) What is the need of Proxy server in a network ? How it improves network performances ?   4+3

6. *(a)* How does FTP work ? Explain the connection establishment procedure between a client and a server in FTP.   5+4

(b) What is Network Virtual Terminal (NVT) ? Explain with a neat diagram.   5

(c) Explain the connection-establishment, data transfer and connection termination process with TCP.   6

7. *(a)* Describe the following terminologies w.r.t. Domain

Name Space.   6

(i) Root Server

(ii) Primary Server

(iii) Secondary Server

(b) Explain the IPv4 datagram header with explanation of each field.   8

(c) Write short notes on : TELNET.   6