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53 (IT 821) INPR

2016

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.

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 terminal problems”? How these problems can be solved? 4+6

Contd.

- (b) Distinguish between connectionless and connection oriented networks. Which is reliable network connection, justify. 4+4
- (c) What is ARP Cache? 2
3. (a) What is the 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 mask 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 (4) Departments A, B, C, D with host requirements as follows :

A = 72 hosts

B = 35 hosts

C = 20 hosts

D = 18 hosts

Use variable length subnet masking (VLSM) and subnet the network according to requirement given. 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 performance? 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 processes 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 IPv4 datagram header with explanation of each field. 8
- (c) Write short note on TELNET. 6
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