

UKA TARSADIA UNIVERSITY

Integrated M.Sc. (IT) (Semester 5)
060010505(2013-14)
Data Communications

Date :02/06/2017

Time :1:30PM- 4:30PM
Max. Marks:60

Instructions :

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Draw diagrams/figures whenever necessary.
5. Figures to the right indicate full marks allocated to that question.
6. Follow usual meaning of notations/abbreviations.

SECTION - 1

Q 1 A) Answer the following.

[4]

- I) Write down the full form of ICMP and IGMP.
- II) What is port address?
- III) What is indirect delivery?
- IV) Define unicast.

Q 1 B) Answer the following in brief. (Any 3)

[6]

- I) List out four components of router.
- II) Define connection oriented and connectionless services.
- III) What is static and dynamic routing table?
- IV) What is computer network? What are the types of network?

Q 2 Answer the following.

[10]

- A) What is netid and hostid? Which are the classes are available in classful addressing? If address is given in binary notation how can you identified classes from it, explain in detail for any two classes.

OR

- A) Change the following IP addresses from binary notation to dotted-decimal notation.

- 1) 01110011 11110000 01100111 01111101
- 2) 10101111 11000000 11011000 00011101
- 3) 11011111 10110000 00011111 01011101
- 4) 11101111 11110111 11000111 00011101
- 5) 11110101 11110011 10000111 11011101

- B) Find the netid and hostid of the following IP addresses:

- 1) 227.12.14.87
- 2) 193.14.56.22
- 3) 14.23.120.8
- 4) 252.5.15.111
- 5) 143.11.78.56

OR

- B) Draw and explain IP datagram in detail.

Q 3 Answer the following in detail. (Any 2)

[10]

- I) "An ARP request is broadcast and an ARP reply is unicast", give your comments on given statement. Explain ARP packet format in detail.
- II) Write and explain two categories of ICMP messages.
- III) Write a short note on IP datagram.

SECTION - 2

Q 4 A) Answer the following.

[4]

- I) What is the range of port numbers?
- II) Which layer does provide process to process communication?
- III) Define: Socket address.
- IV) "TCP is a stream oriented protocol", give your comment.

Q 4 B) Answer the following in brief. (Any 3)

[6]

- I) Why we can say that "TCP is a connection oriented and reliable protocol"?
- II) Enlist any four features of TCP protocol.
- III) What is the size of optional information in TCP header? Which are two categories of options?
- IV) Write merits and demerits of UDP.

Q 5 Answer the following in detail. (Any 2)

[10]

- I) Draw diagram and explain Distance Vector Routing algorithm.
- II) Explain working of BGP with diagram.
- III) Draw OSPF common header and explain any three fields.

Q 6 Answer the following in detail. (Any 2)

[10]

- I) What is the main difference between UDP and TCP? Explain UDP in detail.
- II) What is domain name space? With diagram explain domain and labels for "www.utu.ac.in".
- III) Discuss advantages and limitations of DHCP.