Scheme – I

Sample Question Paper

Program Name : Diploma in Computer Engineering Group

Program Code : CO / CM/ IF / CW

22520

Semester : Fifth

Course Title : Advanced Computer Network

Marks : 70 **Time: 3 Hrs.**

Instructions:

(1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary.
(5) Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following. **10 Marks**

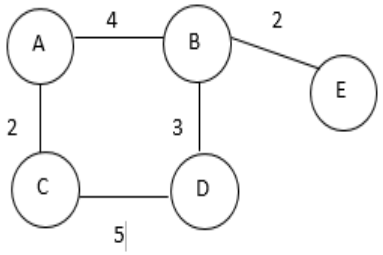
a) Draw and label sketch of IPv6 packet format.
b) State the importance of IPv6 over IPv4?
c) Distinguish between SMTP and POP3 protocols.
d) State the use of six flags in TCP header.
e) Explain the concept of connection oriented service.
f) Stateb the use of SSH.
g) State the concept of fragmentation in IPv4?

Q.2) Attempt any THREE of the following. **12 Marks**

a) Describe flow control under SCTP.
b) Explain ICMP protocol? Describe the header format of ICMP
c) Describe SMTP with suitable diagram.
d) For the block of IPv4 addresses given below build Subnet Mask, Broadcast Address and Number of Hosts possible.
   i. 10.0.199.237/22
   ii. 192.168.14.87/26

Q.3) Attempt any THREE of the following. **12 Marks**

a) Describe the path vector routing algorithm.
b) Distinguish between RIP and OSPF routing protocol.
c) Describe the Architecture of E-mail system using four scenario.
d) Use Bellman-Fort algorithm to find the shortest distance for all nodes in the graph.



Q.4) Attempt any THREE of the following. 12 Marks

a) Construct a diagram to show the application of cookies in a scenario in which the server uses cookies for advertisement.
b) List Intra domain multicast protocols? Explain any one in detail.
c) Describe the HTTP Response Message format.
d) Compare TCP and UDP with any four points.
e) Explain the working of TELNET

Q.5) Attempt any TWO of the following. 12 Marks

a) Explain association establishment process in SCTP.
b) State the need for:
    1) sequence control
    2) error control
    3) flow control.
   Under Transport Layer
c) Explain the process of Transition from IPV4 to IPV6 for a network

Q.6) Attempt any TWO of the following. 12 Marks

a) With a suitable example explain Distance Vector Routing algorithm. What are the serious drawbacks of Distance Vector Routing algorithm?
b) For the IP Addresses given below:
    1) Identify the classes to which the following IP numbers belong to
    2) Identify network Address section
    3) Identify Host Address section
    4) Calculate number of hosts that can be assigned with each network
    i. 122.34.45.133 ii. 12.12.12.12
    iii. 192.0.233.26 iv. 126.123.16.87
c) Describe Email Security over non- secure channel.

Scheme – I

Sample Test Paper - I

Program Name : **Diploma in Computer Engineering Group**

Program Code : **CO / CM/ IF / CW**

Semester : **Fifth**

22520

Course Title : **Advanced Computer Network**

Marks : **20** **Time: 1 Hour.**

Instructions:

(1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary.
(5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR. **08 Marks**

a) State why IPv4 is called connectionless protocol.
b) Describe different classes of IPv4 addresses?
c) Describe the features of IPv6?
d) Describe is the need for Network address translation?
e) List different routing algorithms.
f) Distinguish between Unicast, Multicast and broadcast.

Q.2 Attempt any THREE. **12 Marks**

a) Compare classful and classless addressing?
b) Describe Link State Routing with suitable example.
c) Explain the process of Transition from IPV4 to IPV6 for a network
d) For a given IP address 172.16.10.22 and mask 255.255.255.240, find the following: Subnet mask, broadcast address and valid range of IP addresses in this network.
e) Explain Intra domain and Inter domain routing? Explain any one routing protocol belonging to Intra domain routing.

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Scheme – I

Sample Test Paper - II

Program Name : Diploma in Computer Engineering Group

Program Code : CO / CM/ IF / CW

22520

Semester : Fifth

Course Title : Advanced Computer Network

Marks : 20 **Time: 1 Hour.**

Instructions:

(1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary.
(5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR. **08 Marks**

a) State different applications of UDP.
b) Explain the working principle of World Wide Web?
c) Define? List different types of MIME
d) Compare FTP and TFTP file transfer protocols.(Any two points)
e) List Transport layer protocols.
f) The following is a dump of a UDP header in hexadecimal format
0045DF0000580000
i. what is the source port number?
ii. what is the total length of the user datagram?

Q.2 Attempt any THREE. **12 Marks**

a) Explain the concept of TCP congestion control mechanism.
b) Explain state transition diagram of TCP.
c) Compare POP3 and IMAP mail protocol on the basis of function, speed, download and use.
d) Describe packet format of SCTP with neat sketch?
e) Describe the Architecture of E-mail system using four scenario?