CS/B.TECH(ECE)/SEP.SUPPLE/SEM-8/EC-804A/2012

2012
INTERNET TECHNOLOGY

Time Allotted : 3 Hours   *Full Marks :* 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

    $10 \times 1 = 10$

    i)   Full form of WWW is

         a)   World Window Web   b)   World Wide Wave

         c)   World Window Wave   d)   None of these.

    ii) Class C IP addresses have .... numbers of hosts per network.

         a)   128   b)   256

         c)   512   d)   1024.

    iii) Which of the following classes of IP address is used for multicast addressing ?

         a)   Class *D*   b)   Class *C*

         c)   Class *B*   d)   None of these.

    iv) The process to process delivery of the entire message is the responsibility of the........... Layer.

         a)   Physical   b)   Datalink

         c)   Transport   d)   None of these.
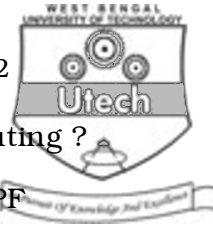
v) Which of the following is not used in Routing ?

   a) Distance Vector   b) SPF

   c) BGP   d) DHCP.

vi) In ....transmission, both communication devices share the channel capacity at all times.

   a) Simplex   b) Half Simplex

   c) Full Duplex   d) Half Duplex.

vii) A WAN using the OSPF protocol that connects two routers is an example of a .... type of OSPF network.

   a) Point to point   b) Transient

   c) Stub   d) Virtual.

viii) Which of the following OSI layers is responsible for identifying communication partners ?

   a) Application   b) Session

   c) Network   d) Presentation.

ix) The maximum size of TCP header is

   a) 64 bytes   b) 16 bytes

   c) 60 bytes   d) 2^{16} bytes.

x) The position of SSL in TCP/IP model is in between

   a) Physical and Data link Layer

   b) Transport and Application Layer

   c) Network and Data link Layer

   d) Network and Transport Layer.

xi) UDP is

  a) connection oriented

  b) connection-less

  c) both (a) and (b)

  d) none of these.

xii) A TCP/IP protocol that allows a host to find its Internet address given its physical address is

  a) ARP   b) RARP

  c) RPF   d) RPM.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.   3 × 5 = 15

2. What is firewall ? Discuss each type of firewall briefly.   1 + 4

3. Write down the difference between ARP and RARP.

4. Explain "Distance Vector Routing" with a suitable example.

5. What is the drawback of BOOTP ? Explain how DHCP works.

1 + 4

6. What is ISDN ? Draw and explain the B-ISDN functional architecture.   1 + 4

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.   3 × 15 = 45

7. a) Distinguish between Internet and Intranet.

   b) What is network protocol ?

   c) Draw the ISO 7-Layer Reference model and explain the purpose of each layer in the ISO model.
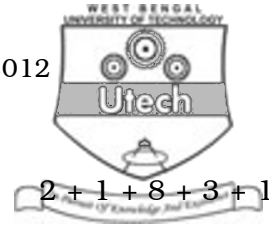
d) How dos packet duplication occur ?

e) What is router ? 2 + 1 + 8 + 3 + 1

8. What are interior routing and exterior routing ? Give example of both routing protocols. Explain any one interior routing protocol. 4 + 3 + 8

9. a) Draw the fields of an Internet Datagram

b) Draw and explain how datagram encapsulation done and what is the advantage to do so.

c) What is fragmentation and why is it important in Internet Datagram transportation ?

d) What is the minimum network MTU (Maximum Transfer Unit) required to send an IP datagram that contains at least one octet of data ? 4 + 4 + 4 + 3

10. a) Differentiate between circuit switching and packet switching.

b) The ATM standard defines how many layers ? Briefly explain each of them.

c) What are the techniques have been used by VPN to guarantee privacy for an organization ? Briefly explain each of them. 4 + (1 + 4) + (1 + 5)

11. Write short notes on any *three* of the following : 3 × 5

a) BGP

b) FTP

c) E-mail

d) VPN

e) Protocol Layering.

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