Total No. of Questions : 5]

SEAT No. : ____

P-3343

[Total No. of Pages : 5

[6027]-15
M.C.A. (Management)
IT15 : NETWORK TECHNOLOGY
(2020 Pattern) (Semester - I)

Time : 2½ Hours] ***[Max. Marks : 50***

Instructions to the candidates :

1) ***All questions are compulsory.***
2) ***All questions carry equal marks.***
3) ***Draw neat diagrams wherever necessary.***

Q1) Multiple Choice Questions : **[10]**

i) _____ are used for short-range communications such as those between a PC and a peripheral device.

a) Radio waves b) Microwaves

c) Infrared waves d) Not in the list

ii) A _____ topology is a combination of several different topologies

a) Tree b) Hybrid

c) Duplex d) Tertiary

iii) Microwaves are _____.

a) omnidirectional b) unidirectional

c) bidirectional d) Not in the list

iv) An IP packet is called a _____.

a) user datagram b) segment

c) datagram d) none of the mentioned

v) E-mail is a service handled by the _____ layer.

a) session b) presentation

c) application d) data link

P.T.O.

vi) In a peer-to.-peer process, layer 4 on machine A communicates with layer _____ on machine B.

a) 1 b) 2

c) 3 d) 4

vii) _____ increases the likelihood of detecting burst enors.

a) Simple parity check b) Two-dimensional parity check

c) CRC d) Check-sum

viii) ARQ stands for _____.

a) Automatic repeat quantization

b) Automatic repeat request

c) Automatic retransmission request

d) Acknowledge repeat request

ix) If the data unit is 101000, the divisor 1001, what checksum to be appended?

a) 111111000 b) 10000

c) 011 d) 1111111011

x) _____ is default subnet mask for Class C address

a) 255.0.255.255 b) 255.255.255.0

c) 0.255.255.255 d) None of the Mentioned

xi) A RIP table entry consists of _____.

a) destination network address

b) the hop count to that destination

c) IP address of the next router

d) All of the mentioned

xii) If subnet id is 255.255.255.0 for class B address, then how many bits are reserved for subnetwork?

a) 2 bits b) 8 bits

c) 6 bits d) 0 bit

xiii) In link state routing, each router receives information directly from _____.

a) Every router on the network

b) Every router less than two units away

c) A table stored on the network hosts

d) Its nearest neighbors only

xiv) Electronic mail uses which Application layer protocol?

a) SMTP b) HTTP

c) FTP d) SIP

xv) FTP is built on _____ architecture.

a) Client-server b) P2P

c) Data centric d) Service oriented

xvi) Caesar cipher is an example of

a) Asymmetric key cryptography

b) Symmetric key cryptography

c) Both Asymmetric and Symmetric key cryptography

d) None of the mentioned

xvii) RSA algorithm is an example of

a) Public key encryption

b) Symmetric key cryptography

c) Both Asymmetric and Symmetric key cryptography

d) None of the mentioned

xviii) Which of the following is not Passive attacks?

a) Modification of message b) Obtaining information

c) Release of message content d) Eavesdropping

xix) In statement “int count\=send(sockid,msg,msgLen,flags);”, count is

a) bits transmitted b) bytes transmitted

c) data transmitted d) None of the mentioned

xx) Server announces willingness to accept the connection using _____ command

a) accept() b) read()

c) write() d) listen()

Q2) a) The received Hamming code word is 101101010. Using odd parity locate and correct the bit in error.

b) Find the transmitted frame, if a series of 8-bit message blocks - 11100110 is to be transmitted across a data link using CRC for error detection. The generator polynomial 11001 is to be used.

[10]

OR

a) Generate CRC code for the data word 1010001011 using the divisor 11101.

b) Detect and correct the single error in the received Hamming code word 1011001011 using even parity.

[10]

Q3) a) Explain IP address format for Class A, Class B, Class C, Class D

Determine the network address for following IP Addresses:

i) 83 .41.57. 10

ii) 194.38. 14. 13

iii) 143 .62. 11. 18

b) Explain IPv6 Packet Format in detail.

[10]

OR

a) Find the maximum number of hosts available on a class-B address with a subnet mask of 255.255.255.192.

b) Find the subnet ID for the IP address 202.127.19.94 with a subnet mask of 255.255.255.248.

[10]

Q4) a) Explain SMTP protocol in detail.

b) Explain OSPF routing protocol in detail.

[10]

OR

a) Explain DHCP scope resolution protocol in detail.

b) Compare POP3 and IMAP email protocols.

[10]

Q5) a) Explain socket programming in detail.

b) What are attacks? Write types of attacks in detail.

[10]

OR

a) Write the client and server program for implementing the broadcasting in the local network.

b) Explain OSI model in brief.

[10]