Total No. of Questions : 5]

SEAT No. :

PA-2555

[Total No. of Pages : 4

[5948]-105
M.C.A. - I (Management)
IT - 15 : NETWORK TECHNOLOGIES
(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) Write the correct option.

a) Frames from one LAN can be transmitted to another LAN via _____ device

i) Router ii) Bridge

iii) Modem iv) Repeater

b) Segmentation and reasembly is done at _____ layer.

i) Network ii) Data Link

iii) Transport iv) Presentation

c) Encryption and compression are done at sender's side by _____ layer

i) Presentation ii) Transport

iii) Network iv) Session

d) Error detection at the data link layer is achieved by _____

i) bit stuffing ii) cyclic redundancy codes

iii) hamming codes iv) equilization

e) Which one of the following task is not done by data link layer?

i) framing ii) error control

iii) flow control iv) channel coding

f) In cyclic Redundancy checking, what is CRC?

i) the divisor ii) quotient

iii) dividend iv) remainder

P.T.O.

g) Which error detection method uses is complement arithmetic?

i) Simple parity check ii) Two dimensional parity check

iii) CRC iv) Checksum

h) Which error detection method consists of one redundent bit per data unit?

i) Simple parity check ii) Two dimensional parity check

iii) CRC iv) Checksum

i) The IPV4 addresses are _____.

i) unique ii) universal

iii) unique and universal iv) common

j) IPV6 addresses are represented using.

i) decimal notation ii) binary notation

iii) dotted-decinal notation iv) hexadecimal notation

k) The address space of IPV6.

i) 8 bits ii) 32 bits

iii) 64 bits iv) 128 bits

l) _____ protocol allows the administrator to assign a cost called the metric to each route.

i) RIP ii) OSPF

iii) BGP iv) None of the mentioned

m) In OSPF, each router that is connected to two or more areas is called _____.

i) back bone router ii) area border router

iii) internal router iv) as boundary router

n) DHCP provides _____ to the client.

i) IP address ii) MAC address

iii) URL iv) None of the mentioned

o) A DNS client is called _____.

i) DNS updater ii) DNS resolver

iii) DNS Handler iv) None of the mentioned

p) SMTP uses which of the following TCP port?

i) 31 ii) 43

iii) 25 iv) 27

q) Which of the following is not a form of DOS Attack?

i) Vulnerability attack ii) Bandwidth flooding

iii) Connection flooding iv) Trojan Horse

r) Which methods are commonly used in serversocket class?

i) public outputstream getoutputstream

ii) public socket accept ( )

iii) public synchronized void done ( )

iv) public void connect ( )

s) The _____ class is used to creat Datagrampacket?

i) Data grampacket ii) Datagramsocket

iii) Both of these iv) None of the mentioned

t) _____ is responsible for establishing a connection.

i) Socket ii) Serversocket

iii) Clientsocket iv) None of the mentioned

Q2) a) Encode a binary word 1001 into the even parity hamming code

[Given number of data bits, n = 5] **[5]**

b) The received code word is 1100100101011, check if there is error in the code word if divisor is 10101. **[5]**

OR

a) A receiver received the hamming code 1001010101 with even parity. Find the error in received code. **[5]**

b) Generate the hamming code for the data 11011011 with odd parity. **[5]**

Q3) a) Determine the network address for the following IP-addresses [5]

i) 87.52.26.71

ii) 77.12.133.86

iii) 193.56.77.22

iv) 128.76.44.37

v) 100.77.44.13

b) Explain IP addressing with network masks and network addresses. [5]

OR

a) Draw and explain IPV4 packet format. [5]

b) Determine the network, subnetwork and host addresses if IP address is 27. 54. 19.33 and subnet mask is 255.255.224.0. [5]

Q4) a) Explain TCP protocol's working in detail. [5]

b) Explain DNS and DNS - resource records in detail. [5]

OR

a) What is open shortest path First protocal? Explain in detail. [5]

b) Explain the functioning of SMTP protocol. [5]

Q5) a) What are security attacks? Explain passive attacks in detail. [4]

b) WAP for establishing termination of connection between clinet and server using TCP. [6]

OR

a) Explain OSI model in detail. [4]

b) Write a program for implementing the sliding window protocol of window size 5. [6]