Total No. of Questions : 5]

SEAT No. : [ ]

P6982

[Total No. of Pages : 3

[5865]-105

F.Y. M.C.A. (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. **[10]**

a) _____is an example of connection oriented protocol.
   i) VDP ii) IP
   iii) TCP iv) SCTP

b) Transmission data rate is decided by_____.
   i) Network layer ii) Physical layer
   iii) Data link layer iv) Transport layer

c) Trailer is added at_____layer.
   i) Network ii) Transport
   iii) Datalink iv) Session

d) In modulo-2 arithmetic, we use the _____operation for both addition and subtraction.
   i) X-OR ii) OR
   iii) AND iv) None of the mentioned

e) We add '*r*' redundent bits to each block to make the length '*n*' = '*k*'+ *r*. The resulting '*n*' - bit blocks are called_____.
   i) Data words ii) Block words
   iii) Code words iv) None of the mentioned

f) A simple parity-check code can detect_____errors.
   i) An even number of ii) two
   iii) No-errors iv) An odd number of

g) In modulo-11 arithmetic we use only the integers in the range_____, inclusive.
   i) 1-10 ii) 1-11
   iii) 0-10 iv) None of the mentioned

h) The Hamming distance between equal code words is_____.
   i) 1 ii) 'n'
   iii) 0 iv) None of the mentioned

P.T.O.

i) Which of the following IP address class 15 multicast.
   i) Class-A ii) Class-B
   iii) Class-C iv) Class-D

j) Which of the following is not applicable for IP.
   i) Error reporting ii) Handle addressing conventions
   iii) Datagram format iv) Packet handling conventions

k) Which of the following protocol uses both TCP and UDP.
   i) FTP ii) SMTP
   iii) Telnet iv) DNS

l) The_____Internet addresses are 32 bits in length.
   i) IPv_1 ii) IPv_2
   iii) IPv_3 iv) IPv_4

m) The IPV_4 addresses are represented using_____.
   i) Binary and dotted decimal notation
   ii) Binary notation
   iii) Dotted decimal notation
   iv) Hexa decimal notation

n) DNS database contains_____.
   i) Name server records ii) Hostname-to-address records
   iii) Host name aliases iv) All of the mentioned

o) Which of the following protocol is used to retrieve the emails.
   i) SMTP ii) POP_3
   iii) SNMP iv) FTP

p) FTP uses_____Paralled TCP connections to transfer a file.
   i) 1 ii) 2
   iii) 3 iv) 4

q) Original Message before transmission is called as_____.
   i) Cipher text ii) Plain text
   iii) Secret-text iv) None of the mentioned

r) Which method is used to establish a connection between server and client.
   i) accept () ii) open ()
   iii) getLocalHost iv) OpenConnection ()

s) How do you implement reliable transmission in UDP protocol?
   i) by sequencing packages ii) By using middleware
   iii) (i) & (ii) both iv) None of the mentioned

t) How to get list of IP address that are assigned to a network interface?
   i) getInetAddresses ii) get InterfaceAddresses
   iii) (i) & (ii) both iv) None of the mentioned

Q2) a) The received Hamming code is 11001010101 with even parity. Find the error in the received code. **[5]**

b) Generate CRC code for data word 1010001011 using the divisor 11101. **[5]**

OR

a) Encode a binary word 11001 into the even parity hamming code. Given, number of data bets. $n = 5$. **[5]**

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

Q3) a) For given class B IP address 172. 168. 14. 1 and subnet mask 253. 255. 140. 124 calculate **[5]**

i) Total number of subnet.

ii) Total no. of host IPs/subnet.

iii) First and last valid IP for each subnet.

b) Explain IPV_6 address schemes in details. **[5]**

OR

a) What is the default mask for following IP host addresses (solve with proper procedure). **[5]**

i) 98. 0. 46. 200

ii) 205. 35-66. 14

iii) 172. 14. 16. 08

b) Compare IPv_4 and IPv_6. **[5]**

Q4) a) What is HTTP? Explain HTTP transaction in detail. **[5]**

b) What is email? Explain different email protocols. **[5]**

OR

a) Explain RIP in detail. **[5]**

b) What is DHCP? Explain DHCP scope resolution protocol in detail. **[5]**

Q5) a) Define threat and attacks. Explain active attack. **[4]**

b) Write a simple socket program to find out IP address of host. **[6]**

OR

a) Write a PCP Server-Socket program which accept request from client to capitalize string and sending the response in the form of capitalized sentence block to client. **[6]**

b) Describe TCP/IP protocol surf in detail. **[4]**

✡ ✡ ✡