

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' redundant 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) IPv₁
 - ii) IPv₂
 - iii) IPv₃
 - iv) IPv₄
- m) The IPv₄ 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) POP₃
 - 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 bits, $n = 5$. [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 IPv₆ 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 IPv₄ and IPv₆. [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]

☆ ☆ ☆