Total No. of Questions :7]

P1013

SEAT No. :

[Total No. of Pages : 3

[5319]-3004

S.Y.B.C.A

SCIENCE

BCA-304: Introduction to Computer Network

(2016 Pattern) (Semister-III)

Time :3Hours]   *[Max. Marks :70*

Instructions to the candidates:

    1)   *Question No.1 is compulsory.*

    2)   *Attempt any two questions from group-I and any two questions from group-II*

    3)   *All questions carry equal marks.*

    4)   *Figures to the right indicate full marks.*

    5)   *Use of scientific calculator is allowed.*

Q1) A) Attempt the following   **[7]**

    a)   In a _____ connection more than two devices can share a single link.

        i)   Point -to -Point   ii)   Primary

        iii)   Multi point   iv)   Secondary

    b)   Which layer of the OSS Reference model corresponds to IP protocol of TCP/SP protocol stack.

        i)   Transport   ii)   Network

        iii)   Internet   iv)   Data link

    c)   The RG number gives us information about _____

        i)   Optical fibres   ii)   Twisted pairs

        iii)   Coaxial cables   iv)   All of above

    d)   A telephone Network is an example of _____

        i)   Circuit switched network   ii)   Packet switched

        iii)   Message switched network   iv)   None of the above

    e)   Which one of the following is multiple access protocol for channel access control.

        i)   CSMA/CD   ii)   CSMA/CA

        iii)   Both i) & ii)   iv)   None of these

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f) The length of IP address is _____ bits.

    i)   46   ii)   32

    iii)   16   iv)   64

g) In _____ the available bandwidth is divided into frequency bands.

    i)   FDMA   ii)   TDMA

    iii)   CDMA   iv)   None of these

B) Attempt the following.   **[7]**

    a) Define Topology.

    b) What is interface.

    c) Define bit rate and bit length.

    d) Convert following IPV$_4$ address from decimal rotation to binary: 221.34.7.82

    e) Define channelization.

    f) Define Netid & hostid.

    g) List the framing methods in Data link Layer.

GROUP-I

Q2) Attempt the following.

    a) What are hybrid networks give its advantages and disadvantages. **[5]**

    b) Compare and contrast OSS and TCP/IP reference model. **[5]**

    c) Write a short note on unguided media. **[4]**

Q3) Attempt the following.

    a) Explain straight through cable and cross over cabling. **[4]**

    b) Explain the characteristics on which data communication depends. **[4]**

    c) Define the terms: **[3]**

        i)   Bit Interval   ii)   Bit rate   iii)   Bit length

    d) Write a short note on star topology. **[3]**

Q4) Attempt the following.

    a) Give the advantages of Token passing. **[4]**

    b) Explain filtering in bridges. **[4]**

    c) Explain IPV$_6$ address space **[3]**

    d) Draw graph for NRZ-I coding for following data. **[3]**

        i)   00000000   ii)   01010101   iii)   00110011

GROUP-II

Q5) Attempt the following.

    a)   Write a short note on cyclic Redundancy check   **[5]**

    b)   Explain the line coding characteristics.   **[5]**

    c)   Explain supernetting.   **[4]**

Q6) Attempt the following.

    a)   What is unipolar line coding scheme. gives its drawbacks.   **[4]**

    b)   Given a data ward 1010011110 and divisor 10111

        i)   Show the generation of codeward at sender side (using binary division).   **[4]**

        ii)   Show the checking of the codeward at receiver side (assume no error).

    c)   Explain the fields in IPV_4 datagram.   **[3]**

    d)   State the advantages and disadvantages of Non persistant CSMA.   **[3]**

Q7) Attempt the following.

    a)   Give the advantages of computer Network.   **[4]**

    b)   Write a short note on Hub.   **[4]**

    c)   Explain the different modes of transmission.   **[3]**

    d)   Write a note on Infrared waves.   **[3]**

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