NF-122

November -2018

B.C.A., Sem.-V

CC-303 : Data Communications and Networking

Time : 2:30 Hours]   [Max. Marks : 7

1.   (A)   Write the following :

   (i)   Explain any two modulation techniques.

   (ii)   Explain analog signal, digital transmission in detail.

OR

   (i)   What is data transmission rate and how is it calculated ?

   (ii)   Discuss the concept of simplex, half duplex and full-duplex communication.

   (B)   Answer the following : (Any **four**)   4

   (1)   Define period.

   (2)   Data rate is closely related with the _____.

      (a)   phase   (b)   modulation

      (c)   frequency   (d)   size

   (3)   _____ is highly affected by noise.

      (a)   FSK   (b)   ASK

      (c)   PSK   (d)   none of these

   (4)   _____ detects zeroes and ones and regenerates them.

      (a)   Amplifier   (b)   Repeater

      (c)   Multiplexer   (d)   Modem

   (5)   _____ Signals are continuous in nature.

      (a)   Analog   (b)   Digital

      (c)   Mixed   (d)   None of these

   (6)   Define baud rate.

2.   (A)   Write the following :

   (i)   Explain how LRC works.

   (ii)   What is multiplexing ? Explain WDM.   7

OR

   (i)   Describe the Go-back-n technique.

   (ii)   Explain sliding window method.

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(B) Answer the following : (Any **four**)   4

 (1) _____ is an intelligent multiplexing technique.

  (a) STDM   (b) FDM

  (c) TDM   (d) None of these

 (2) _____ transmits each signal on a different frequency.

  (a) TDMA   (b) CDMA

  (c) FDMA   (d) TDM

 (3) Define Encryption.

 (4) The mux is responsible for both multiplexing and demultiplexing. [True / False]

 (5) CRC calculation is based on a specific portion of data. [True / False]

 (6) The receiver sends a _____ back to the sender if everything was O.K.

  (a) NAK   (b) PAK

  (c) ACK   (d) NCK

3. (A) Write the following :

 (i) What is transmission media ? Explain any one guided media in detail. 7

 (ii) Describe Packet switching ? 7

<center>**OR**</center>

 (i) What is handoff ? How does it take place ?

 (ii) Describe topology. Explain any three in detail.

(B) Answer the following : (Any **three**) 3

 (1) In star topology, the central hub is called _____.

  (a) active hub   (b) passive hub

  (c) inactive hub   (d) live hub

 (2) The Ethernet address consists of 40 bits. [True/ False]

 (3) Optical fibers use _____ for data transmission.

  (a) voltage   (b) current

  (c) light   (d) sound

 (4) _____ is the most commonly used transmission medium.

  (a) Optical Fiber   (b) Coax

  (c) UTP   (d) STP

 (5) Define attenuation.

4. (A) Write the following :

    (i)   What is internetworking ? Give a summary of internet working devices.   7

    (ii)   Explain OSI Model.   7

OR

    (i)   What is Router ? How does it works ?

    (ii)   How does gateway work ?

(B) Answer the following : (Any **three**)   3

    (1)   A simple bridge is also called an adaptive bridge. [True / False]

    (2)   The OSI model consists of five different layers. [True / False]

    (3)   Just one address is sufficient for a router. [True / False]

    (4)   The user is closest to the Application layers. [True / False]

    (5)   Encryption is handled by the Presentation layers. [True / False]

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