NC-112

December-2015

B.C.A. Sem.-V

CC-303 : Data Communications & Networking

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

l.   (A)   (i)   What is Protocol ? Explain it's characteristics.   **3**

         (ii)   Difference between Analog Signal and Digital Signal.   **4**

<div align="center">OR</div>

         (i)   Define the following Terms :   **4**

             (a)   Communication

             (b)   Amplitude

             (c)   Baud rate

             (d)   Period

         (ii)   What are the different ways of communication ? Differentiate between Simplex, Half duplex, Full Duplex.   **3**

  (B)   (i)   What is Data Communication ? Explain its characteristics.   **3**

         (ii)   Which method is used for Analog Signal Digital Transmission ? Explain with example.   **4**

<div align="center">OR</div>

         (i)   What are the different types of Modulation ? Explain PSK with suitable example.   **3**

         (ii)   Define the following terms :   **4**

             (a)   Frequency

             (b)   Bandwidth

             (c)   Amplifier

             (d)   Phase

2.   (A)   (i)   Explain Multiplexing and De-multiplexing. Differenciate between FDM and TDM.   **4**

         (ii)   Describe classification of Error.   **3**

<div align="center">OR</div>

         (i)   Name the Error Detection Methods. Explain Parity Check Method with example.   **4**

         (ii)   What are the different types of Error Recovery Methods? Explain Go-back-N with example.   **3**

(B)	(i)	What is Multiplexer ? Explain WDM in detail.		4
	(ii)	What are the different types of Error ? Explain with example.		3

OR

	(i)	Explain Checksum method in detail. Calculate checksum for following example :		4
		11001000111111100110		
	(ii)	Explain Sliding Window method.		3

3.	(A)	(i)	What are the different Guided Media? Explain Fastest Guided Media.	4
		(ii)	Explain Circuit Switching in detail.	3

OR

		(i)	What is Topology ? Name the different Topologies. Differenciate between star and Mesh topology.	4
		(ii)	Name the different types of Switching. Explain Datagram approach.	3

	(B)	(i)	What are the different types of Unguided Media? Explain Satellite Communication.	4
		(ii)	Explain Ring topology.	3

OR

		(i)	Explain Cellular Communication.	4
		(ii)	Explain Twisted Pair with its type.	3

4.	(A)	(i)	Discuss the Open System Interconnection in detail.	4
		(ii)	Explain VLAN.	3

OR

		(i)	Differenciate between Router and Bridge.	4
		(ii)	Write short note on Ethernet.	3

	(B)	(i)	Name the different Channels used in ISDN. Explain ISDN Interface.	4
		(ii)	Explain CSMA/CD.	3

OR

		(i)	Explain Piconet and Scatternet.	4
		(ii)	Write a short note on Access-point.	3

5.	(A)	Answer the following questions :	7
	(1)	ISDN use _____ for data transmission.	

	(a)	Digital Pipe	(b) Data channel
	(c)	Ethernet	(d) Digital Bit Pipe

(2) Digital Signals are regenerated by_____.

	(a)	Amplifier	(b) Modem
	(c)	Repeater	(d) Switch

(3) _____is an intelligent Multiplexing Technic.
   (a) Synchronous TDM
   (b) Wavelength Division Multiplexing
   (c) Statistical TDM
   (d) Pulse Code Modulation

(4) _____ is a batter error detection method.
   (a) LRC   (b) Checksum
   (c) CRC   (d) VRC

(5) Microwave Communication works in_____.
   (a) Coaxial Cable   (b) Line of Sight
   (c) Omni direction   (d) Fiberoptic cable

(6) 802.15 stands for_____.
   (a) Wi-max   (b) Wi-fi
   (c) Bluetooth   (d) Mobile Network

(7) _____ helps Ethernet to recover errors occurring through simultaneous transmission.
   (a) Collision   (b) DQDB
   (c) CD   (d) CSMA/CD

(B) State weather **true** of **false**.   7

(1) FSK is highly affected by noise.

(2) Safety band is used so that the signals of two channels do not mingle with each other.

(3) In parallel communication we transfer a word or byte at a time.

(4) Optical fibres use refraction to guide the light through the optical fiber.

(5) FDDI use Second ring for loopback.

(6) The switch is used at the physical, datalink and network layer of OSI model.

(7) Bearrer Channel is used for signalling and controlling in ISDN.

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