

Seat No. : \_\_\_\_\_

**NF-122**

**November -2018**

**B.C.A., Sem.-V**

**CC-303 : Data Communications and Networking**

**Time : 2:30 Hours]**

**[Max. Marks : 70**

1. (A) Write the following :

- (i) Explain any two modulation techniques. 7
- (ii) Explain analog signal, digital transmission in detail. 7

**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. 7
- (ii) What is multiplexing ? Explain WDM. 7

**OR**

- (i) Describe the Go-back-n technique.
- (ii) Explain sliding window method.

(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

**OR**

- (i) What is handoff ? How does it take place ?
- (ii) Describe topology. Explain any three in detail.

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

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- (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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