

Seat No. : _____

DC-102

December-2020

BCA, Sem.-V

CC-303 : Data Communication Networks (Old)

Time : 2 Hours]

[Max. Marks : 50

- Instructions :** (1) All questions in Section – I carry equal marks.
(2) Attempt any **two** questions in Section – I.
(3) Question **5** in Section – II is compulsory.

Section – I

1. (A) What is signal propagation ? Explain analog and digital signal in detail. **10**
(B) Explain synchronous, asynchronous and isochronous in detail. **10**
2. (A) Differentiate multiplexing and demultiplexing in detail. **10**
(B) Explain any error correction technique with diagram in detail. **10**
3. (A) List various guided medias and explain the fastest one in detail. **10**
(B) Explain any switching technique in detail. **10**
4. (A) List all layers of OSI model and explain any three in detail. **10**
(B) Explain the working of CSMA/CD. **10**

Section – II

5. MCQs : (Any 5 × 2 marks each) **10**
 - (i) Which of the following is the characteristic of data communication ?
(A) Timely delivery (B) Fast delivery
(C) Late delivery (D) No delivery
 - (ii) Baud rate can be _____ than bit rate.
(A) lower (B) same or lower
(C) higher (D) same or higher

- (iii) _____ communication permits to transmit data on both the sides at same time.
- (A) Simplex (B) One duplex
(C) Half duplex (D) Full duplex
- (iv) _____ allocates equal time to all computers including ideal ones.
- (A) FDM (B) TDM
(C) STDM (D) WDM
- (v) Which of the following is not an error ?
- (A) Attention (B) Attenuation
(C) Distortion (D) None of the above
- (vi) _____ network has nodes connected to adjacent nodes only.
- (A) Ring (B) Mesh
(C) Star (D) None of the above
- (vii) Which of the following is valid satellite communication technique ?
- (A) FDMA (B) TDMA
(C) CDMA (D) All of the above
- (viii) Bus topology has all nodes connected to a central line called _____.
- (A) Main (B) Backbone
(C) Center (D) Cheif
- (ix) Loopback technique is implemented in _____ for disconnected / failed host.
- (A) token ring (B) FDDI
(C) CSMA/CD (D) WAN
- (x) Wireless lan uses _____ protocol.
- (A) 802.10 (B) 802.12
(C) 802.11 (D) 802.13
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CC-303 : Computer Networks (New)

Time : 2 Hours]

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- Instructions :**
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 - (2) Attempt any **two** questions in Section – I.
 - (3) Question **5** in Section – II is compulsory.

Section – I

1. (A) What is data communication ? Explain its characteristics. Also discuss Simplex, Half duplex and Full duplex communication with block diagram. **10**
(B) List various analog and digital transmission methods and discuss PCM method with proper diagram. **10**
2. (A) What is multiplexing ? Which are its types ? Explain Statistical TDM in detail with suitable example. **10**
(B) List various error detection methods and discuss CRC method in detail with diagram. **10**
3. (A) Which are the types of transmission media ? Explain Handoff technique (with proper diagram) used in cellular phone system as unguided media. **10**
(B) List various network topologies and compare any two topologies in detail with its structure, advantages and disadvantages. **10**
4. (A) Compare OSI model with TCP/IP model of networking. **10**
(B) Define LAN, MAN and WAN. Explain Token Ring network with proper diagram. **10**

Section – II

5. MCQs : (Any 5 × 2 marks each)

10

- (i) When signal travels from one end to another end of a medium, it is signal _____.
(A) propagation (B) generation
(C) creation (D) transfer
- (ii) Which of the following is valid communication ?
(A) Synchronous (B) Asynchronous
(C) Isochronous (D) All of the above
- (iii) The problem of skew occurs in _____ transmission.
(A) serial (B) parallel
(C) random (D) sequential
- (iv) Signals of various wavelengths can be combined as one in _____ technique.
(A) FDM (B) TDM
(C) STDM (D) WDM
- (v) The receiver sends back _____ signal if everything is successful in data transmission.
(A) ACK (B) NAK
(C) OK (D) All OK
- (vi) Optical fiber medium uses _____ of a light source.
(A) refraction (B) retraction
(C) reflection (D) redirection
- (vii) How many no. of satellites are minimally required to cover the earth ?
(A) 3 (B) 4
(C) 5 (D) 6
- (viii) Which is the valid switching technique ?
(A) Circuit (B) Packet
(C) Message (D) All of the above
- (ix) FDDI provides _____ mechanism in case of disconnected / failed host.
(A) self healing (B) self looping
(C) self reversing (D) self copying
- (x) _____ works at all layers of OSI model.
(A) Gateway (B) Router
(C) Repeater (D) Bridge