

Seat No. : _____

AN-113

April-2022

M.Sc. (CA & IT), Sem.,-VI

Data Communication & Networking

Time : 2 Hours]

[Max. Marks : 50

Section-I

(Attempt Any 3 Questions Out of 5 questions.)

1. (A) Answer the following Questions :
 1. Explain OSI model in detail. **5**
 2. What is Dataflow mode ? Explain. **2**(B) Answer the following Questions :
 1. What is Transmission Impairment ? Explain in detail. **5**
 2. What is Bandwidth in composite Analog signal ? **2**

2. (A) Answer the following Questions :
 1. In CRC Data word is 0100, Divisor is 1101, then calculate the CRC. **5**
 2. Explain Different Types of Error. **2**(B) Answer the following Questions :
 1. What is Sliding window protocol? Explain Go Back N Sliding window protocol. **5**
 2. Explain Stop & Wait Protocol. **2**

3. (A) Answer the following Questions :
 1. Explain CSMA protocol in detail. **5**
 2. What is Collision ? **2**(B) Answer the following Questions :
 1. Explain Polling Protocol in detail. **5**
 2. Explain Frequency & period in Analog signal. **2**

4. (A) Answer the following Questions :
 1. What is Routing? Explain Link State Routing Algorithm. **5**
 2. Explain Direct & Indirect delivery. **2**(B) Answer the following Questions :
 1. Explain CDMA in detail. **5**
 2. Explain Mask. **2**

5. (A) [I] Answer the following Questions (Any **One**) : 5
 1. What is Reservation Protocol ? Explain
 2. What Selective Repeat Protocol ? Explain
 [II] Explain Point to Point & Multipoint Connection. 2
- (B) [I] Answer the following Questions (Any **One**) : 5
 1. What is Class Full IP address ? Explain in detail.
 2. Explain Slotted ALOHA in detail.
 [II] Explain Throughput. 2

Section-II

(Question 6 is Compulsory.)

6. Attempt any Eight : 8
- (1) In Byte Stuffing data is "@@I am @@\$ learning @@ DCN \$\$@@" where @ is Flag and\$ is Esc. Which of following is valid Byte Stuffing ?
 (a) \$\$\$@ I am \$\$\$@\$ learning \$\$\$@ DCN \$\$\$\$@\$@
 (b) @@ I am \$\$\$@\$ learning \$\$\$@ DCN \$\$\$\$@\$\$@
 (c) @ I am \$\$\$@\$ learning \$\$\$@ DCN \$\$\$\$@\$\$@
 (d) @\$@\$@ I am \$\$\$@\$ learning \$\$\$@ DCN \$\$\$\$@\$\$@
- (2) In Bit Stuffing Data is "11111 011111 0111 0111 0111111" where Flag is 0 111111 0 .Which of following is valid Bit stuffing ?
 (a) 0 111111 0 11111 0111110 0111 0111 0111101 0111111 0
 (b) 0 111111 0 0 11111 0111110 0111 0111 0111101 0 111111 0
 (c) 11111 0111110 0111 0111 0111101
 (d) 0 111111 0 11111 0111110 0111 0111 01111011 0 111111 0
- (3) _____ protocol has 36.8 % throughput.
 (a) CSMA (b) ALOHA
 (c) CSMA/CD (d) Slotted ALOHA
- (4) In Classful addressing, a large part of the available addresses are :
 (a) Blocked (b) Reserved
 (c) Wasted (d) None
- (5) What is the size of the Host ID in Class C ?
 (a) 24 bits (b) 16 bits
 (c) 8 bits (d) 14 bits

- (6) If 190.20.30.30 is Classful Ip address then Network Id is
(a) 190.0.0.0 (b) 190.20.0.0.
(c) 190.20.30.0 (d) None
- (7) The _____ of error is more difficult than the _____ of error.
(a) creation; detection (b) correction; detection
(c) detection; correction (d) creation; correction
- (8) $m=4$ then size of sender & receiver sliding window is _____ In Selective Repeat ARQ Protocol.
(a) 7 (b) 15
(c) 16 (d) 8
- (9) If Size of Dataword is 3 and Size of Codeword is 4 then _____ Number of Codeword are not used.
(a) 8 (b) 16
(c) 32 (d) 64
- (10) _____ Layer transfer data Source Node to Destination Node.
(a) Physical layer (b) Data link layer
(c) Network layer (d) Transport Layer
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