



**2020/TDC(CBCS)/ODD/SEM/  
BCACC-303T/019**

**TDC (CBCS) Odd Semester Exam., 2020  
held in March, 2021**

**COMPUTER APPLICATION  
( 3rd Semester )**

Course No. : BCACC-303T

**( Computer Networks )**

Full Marks : 50

Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks  
for the questions

SECTION—A

1. Answer any ten of the following questions :

2×10=20

- (a) What is the need of network protocol?
- (b) Differentiate between digital signal and analog signal.
- (c) Fill in the blanks :
  - (i) \_\_\_\_\_ topology requires a multipoint connection.
  - (ii) Data communication system spanning States, countries, or the whole world is \_\_\_\_\_.



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- (d) Why do we use multiplexing in networking?
- (e) What is switching? What are the functions of a switch?
- (f) What are the characteristics of a modem?
- (g) What do you mean by digital subscriber line?
- (h) How are cable TV signals transmitted?
- (i) Write down the functions of data link layer.
- (j) Define data word and code word. Give examples.
- (k) Draw the structures of encoder and decoder in error correction.
- (l) What is Hamming distance?
- (m) Write down the difference between router and switch.
- (n) Why is routing algorithm needed?
- (o) Mention two important functions of network layer.

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( Continued )

( 3 )

- (p) Define internet protocol.
- (q) Define UDP. Mention two of its uses.
- (r) Why is TCP called a reliable protocol?
- (s) What is domain name? Define name space.
- (t) Write down the formats of request and response messages in HTTP transaction.

SECTION—B

Answer any five questions

- 2. Explain the different network topologies along with their advantages and disadvantages. 6
- 3. (a) Explain the different data transmission modes. 3
- (b) Write short notes on the following :  
 $1\frac{1}{2} + 1\frac{1}{2} = 3$ 
  - (i) FDM
  - (ii) TDM
- 4. (a) Write down the working principle of packet switching. 2

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( Turn Over )



( 4 )

( 5 )

- (b) Define the following :  $1 \times 4 = 4$
- (i) ADSL
  - (ii) HDSL
  - (iii) SDSL
  - (iv) VDSL
5. (a) Explain briefly cable TV networks. 3
- (b) Compare and contrast a traditional cable network with a hybrid fibre coaxial network. 3
6. Explain Carrier Sense Multiple Access (CSMA) in detail. 6
7. (a) If a set of numbers is (7, 11, 18, 10, 12), then explain the sender side coding as well as receiver side decoding in check sum technique. 4
- (b) What is go-back-nARQ? 2
8. Explain the concept of link state routing in detail. 6
9. (a) What is classless addressing? Give example. 2

- (b) Find the class of each address :  $1 \times 4 = 4$
- (i) 00000001 00001011 00001011  
11101111
  - (ii) 11000001 10000011 00011011  
11111111
  - (iii) 14 . 23 . 120 . 8
  - (iv) 252 . 5 . 15 . 111

10. Explain the connection establishment in TCP. 6
11. Write short notes on the following :  $2+2+2=6$
- (a) URL
  - (b) Cookies
  - (c) Get and Post methods of HTTP

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