

CR-5624

**B. C. A. (Second Year) Examination,
March-April 2019**

(Gr.-II)

Paper : BCA-24

**DATA COMMUNICATION and COMPUTER
NETWORKS**

Time Allowed : Three hours

Maximum Marks : 40

Note : Attempt questions of all three sections as directed.

Distribution of marks is given with question.

Section-‘A’

(Objective Type Questions) 5×1=5

*Note : Attempt all questions. Each question carries
1 mark.*

1. Choose the correct answer :

- (i) The ISDN Internetworking Equipment devices are
- (a) Terminal Adapters (TAs)
 - (b) ISDN Bridges
 - ~~(c)~~ ISDN Routers
 - (d) All of these
- (ii) In asynchronous serial communication the physical layer provides : <http://www.a2zsubjects.com>
- (a) State and stop signalling
 - (b) Flow control
 - ~~(c)~~ Both (a) & (b)
 - (d) None
- (iii) What data communication method is used to send data over a serial communication link :
- (a) Simplex
 - (b) Half duplex
 - ~~(c)~~ Full duplex
 - (d) All

(iv) Original ALOHA protocol is called :

(a) Simple ALOHA

~~(b) Pure ALOHA~~

(c) CSMA

(d) FDMA

(v) The technique which requires no network information required is <http://www.a2zsubjects.com>

(a) Flooding

(b) Variable routing

~~(c) Fixed routing~~

(d) Random routing

Section-'B'

(Short Answer Type Questions) 5×2=10

Note : Attempt all questions. One question from each unit is compulsory. Each question carries 2 marks.

Unit-I

2. Explain message switching technique with timing diagram.

Or

Differentiate between Analog and Digital Signal.

Unit-II

3. Enlist design issues of each layer in OSI model.

Or

Represent bit stream 10101101 in Unipolar NRZ bit encoding schemes. <http://www.a2zsubjects.com>

Unit-III

4. Write different functions of Data Link Layer.

Or

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What are the advantages of full duplex over other technique. <http://www.a2zsubjects.com>

Unit-IV

5. Explain IEEE 802.3 standard.

Or

Compare different Fast LANs.

Unit-V

6. Explain the principle of Bellman-Ford routing algorithm.

Or

Differentiate between Internet and Intranet.

[6]

Section-'C'

(Long Answer Type Questions) 5×5=25

Note : Attempt all questions. One question from each unit is compulsory. Each question carries 5 marks.

Unit-I

7. Describe the theoretical model for communication.

Or

Explain various types of data switching with advantages and disadvantages. <http://www.a2zsubjects.com>

Unit-II

8. List the name of various layers of OSI model and specify the function of each layer.

Or

Explain various methods of Synchronous Data Error detection and correction.

Unit-III

~~9.~~ Explain a bit oriented data link protocol :

(a) 101111101111111010

(b) 1101111101111101111110

above two bit strings, needs to be transmitted at the data link layer. What are the strings actually transmitted after bit stuffing.

Or

Explain sliding window protocol with their efficiency.

<http://www.a2zsubjects.com>

Unit-IV

~~10.~~ Explain any two :

(a) CSMA

(b) CSMA/CD

(c) Pure ALOHA

(d) Slotted ALOHA

Unit-V

11. Explain with suitable example Dijkstra's routing algorithm.

Or

What are the necessary element for routing?