



Reg. No. : .....

Name : .....



K19U 0094

**VI Semester B.Sc. Degree (CBCSS-Reg./Supple./Improv.)**  
**Examination, April 2019**  
**(2014 Admission Onwards)**  
**CORE COURSE IN COMPUTER SCIENCE**  
**6B14CSC : Data Communication and Networks**

Time : 3 Hours

Max. Marks : 40

**SECTION - A**

1. **One word answer :**

**(8×0.5=4)**

- Systems that are open for communication with other systems are called \_\_\_\_\_
- In which method, the boundary between two frames can be unambiguously recognized by the flag pattern ?
- If connection-oriented service is used, a path from the source router all the way to the destination router must be established before any data packets can be sent is called \_\_\_\_\_
- Which algorithms do not base their routing decisions on any measurements or estimates of the current topology and traffic ?
- The software and/or hardware within the transport layer that does the work is called \_\_\_\_\_
- Which option in TCP lets a receiver tell a sender the ranges of sequence numbers that it has received ?
- Character-for-character or bit-for-bit transformation, without regard to the linguistic structure of the message is called \_\_\_\_\_
- OSI stands for \_\_\_\_\_

**SECTION - B**

Write short notes on **any seven** of the following questions :

**(7×2=14)**

- What are the advantages of star topology ?
- What is network virtual terminal ?

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4. What are the functions of data link layer ?
5. What is admission control ?
6. List the file transfer protocols.
7. Which are the two fundamental principles of cryptography ?
8. What is whitening ?
9. What is congestion ?
10. What is the need of error control ?
11. What is service point addressing ?

SECTION - C

Write short notes on **any four** of the following questions :

(4×3=12)

12. Discuss fundamental characteristics of data communication.
13. Discuss the responsibilities of network layer.
14. What is store and forward switching ?
15. What is leaky bucket algorithm ?
16. Compare the features of TCP and UDP.
17. Explain DES chaining.

SECTION - D

Write short notes on **any two** of the following questions :

(2×5=10)

18. Discuss the types of unguided media.
19. Explain Dijkstra's shortest path algorithm.
20. How connection is established by the transport layer ?
21. Discuss substitution cipher.