



K23U 0199

Reg. No. :

Name :

**VI Semester B.Sc. Degree (C.B.C.S.S. – Supplementary) Examination, April 2023
(2017 to 2018 Admissions)
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)
- a) Transmission media are usually categorized as _____
 - b) The five components that make up a data communication system are _____
 - c) The session layer _____, _____ and _____ the interaction between the communication devices.
 - d) _____ is the process of adding one extra byte whenever there is a flag or escape character in the text.
 - e) In distance vector routing, each route maintains a _____ to every node.
 - f) The ultimate goal of transport layer is to provide _____, _____ and _____ services to its users.
 - g) The message to be encrypted is known as _____
 - h) In the DES specification, the key length is _____ bit.

SECTION – B

Write short notes on **any seven** of the following questions. (7×2=14)

- 2. Define topology of a network.
- 3. What does the term data refer to ?
- 4. State the functions of data link control.
- 5. List the effects of congestion in computer networks.

P.T.O.



6. What are substitution techniques ?
7. Why is ISO-OSI model called so ?
8. Give an account of PAR protocol.
9. Define the terms cryptography and cryptanalysis.
10. What is bit stuffing ?
11. Mention the three aspects of security.

SECTION – C

Answer **any four** of the following questions.

(4×3=12)

12. Compare point-to-point and multipoint connection in a network.
13. List the advantages and disadvantages of bus topology.
14. What is the difference between a leaky bucket and a token bucket algorithm ?
15. What is a sink tree ?
16. List the characteristics of flooding.
17. Differentiate between a monoalphabet cipher and a polyalphabetic cipher.

SECTION – D

Answer **any two** of the following questions.

(2×5=10)

18. Describe :
 - i) LAN and
 - ii) WAN networks.
 19. Compare OSI and TCP/IP models.
 20. Citing suitable example, describe Dijkstra's algorithm to create a shortest path tree from a graph.
 21. Differentiate conventional key (symmetric) from public key (asymmetric) encryption.
-