



K21U 1602

Reg. No. : .....

Name : .....



V Semester B.C.A. Degree (C.B.C.S.S. – Suppl./Improve.)  
Examination, November 2021  
(2015 – 2018 Admns.)  
Core Course  
5B14BCA : DATA COMMUNICATION AND NETWORKS

Time : 3 Hours

Max. Marks : 40

SECTION – A

1. One word answer. (8×0.5=4)

- a) \_\_\_\_\_ is a data transfer method in which a continuous stream of data signals is accompanied by timing signals to ensure that the transmitter and the receiver are in step with one another.
- b) \_\_\_\_\_ is function of Data Link Layer that is used to separate message from source to destination.
- c) The data unit of transport layer for UDP is \_\_\_\_\_.
- d) The process of selecting a path for traffic in a network or across multiple networks is called as \_\_\_\_\_.
- e) CRC stands for \_\_\_\_\_.
- f) In \_\_\_\_\_, the routers are divided into regions and each router has complete details about how to route packets to destinations.
- g) A \_\_\_\_\_ is the type of substitution cipher in which each letter in the plaintext is replaced by a letter some fixed number of positions down the alphabet.
- h) \_\_\_\_\_ refers to the science and art of transforming messages to make them secure and immune to attacks.

SECTION – B

Answer any 7 questions. (7×2=14)

- 2. What are the components of data communication ?
- 3. Define network topology. List any four types.

P.T.O.



4. What are the functions of a router ?
5. What are the functions of session layer ?
6. Compare Adaptive and non-Adaptive routing.
7. What is the use of gateways in networks ?
8. What are the causes of congestion in data communication ?
9. Write note on Character Stuffing.
10. Explain multicast and broadcast connection.
11. What is encryption ?

SECTION – C

Answer **any 4** questions.

(4×3=12)

12. Explain the Dijkstra's shortest path routing algorithm.
13. Explain about simplex protocol for a noisy channel.
14. Explain the different categories of unguided media.
15. Discuss flow based and hierarchical routing.
16. Explain about DES chaining.
17. Write note on Synchronous and Asynchronous data transfer.

SECTION – D

Answer **any 2** questions.

(2×5=10)

18. Explain in detail about ISO-OSI reference model.
  19. Discuss congestion control algorithms.
  20. Explain the design issues of transport layer and the protocols TCP, UDP.
  21. Define Public Key Cryptography and explain RSA algorithm.
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