K24U 0186

Reg. No. : .....

Name : .....

Sixth Semester B.C.A. Degree (C.B.C.S.S. – OBE – Regular/ Supplementary/Improvement) Examination, April 2024
(2019 to 2021 Admissions)
Core Course
6B19BCA : DATA COMMUNICATION AND NETWORKS

Time : 3 Hours Max. Marks : 40

Part – A
(Short Answer)

Answer **all** questions. **(6×1=6)**

1. Define the term Computer Networks.
2. Mention any two functions of data link layer.
3. What do you mean by bit stuffing ?
4. What do you mean by routing ?
5. What do you mean by three way handshaking ?
6. What do you mean by cryptography ?

Part – B
(Short Essay)

Answer **any 6** questions. **(6×2=12)**

7. Name any two properties of Computer Networks.
8. Compare synchronous and asynchronous data transmission.
9. Write note on any one flow control mechanism.
10. Short note on adaptive routing algorithm.

P.T.O.

11. Short note on substitution cipher.

12. Compare simplex and half duplex transmission.

13. Write short note on Dijikstras shortest path algorithm.

14. Mention functionalities of transport layer.

PART – C

(Essay)

Answer **any 4** questions. **(4×3=12)**

15. Write short note on secret key cryptography.

16. Write short note on addressing in networks.

17. Explain any one error detection mechanism.

18. Write short note on classification of computer networks.

19. Write short note on hierarchical routing.

20. Describe various steps in RSA algorithm.

PART – D

(Long Essay)

Answer **any 2** questions. **(2×5=10)**

21. Explain with a neat diagram star and bus topology.

22. Explain error correction in computer networks.

23. Explain the concepts of congestion control mechanism in networks.

24. Compare TCP and UDP protocols.

K23U 0445

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VI Semester B.C.A. Degree (CBCSS – OBE-Regular/Supplementary/ Improvement) Examination, April 2023
(2019 and 2020 Admissions)
Core Course
6B19BCA : DATA COMMUNICATION AND NETWORKS

Time : 3 Hours

Max. Marks : 40

SECTION – A

Write short notes on **all** questions. **(6×1=6)**

1. How are networks classified ?
2. Define parallel and serial transmission.
3. Illustrate the four situations with regard to congestion.
4. State optimality principle for the shortest path.
5. Discuss the three events of transport layer in creating connection between source and destination.
6. Explain the function of Transport Layer.

SECTION – B

Write short essay on **any six** of the following questions. **(6×2=12)**

7. Compare a node and a network.
8. Discuss Unicast, Multicast and Broad cast communication.
9. Narrate the steps for placement of the data link protocol.
10. Explain the design issues of network layer.
11. Differentiate static routing from Dynamic one.
12. List the responsibilities of Transport Layer.
13. What is Caesar Cipher ?
14. Write a note on security and reciprocity of RSA.

P.T.O.

SECTION – C

Answer **any four** of the following questions. **(4×3=12)**

15. Describe simplex, half duplex and full duplex modes of communication.
16. Group the OSI layers by function.
17. Describe the layered architecture of TCP/IP model.
18. Explain character stuffing with example.
19. What is connection management in transport layer ?
20. With suitable examples explain encryption and decryption.

SECTION – D

Answer **any two** of the following questions. **(2×5=10)**

21. With suitable diagrams explain star and mesh topologies.
22. Describe the OSI model and explain how it relates to a network.
23. Explain Dijkstra algorithm with suitable example.
24. Explain various conventional methods of encryption/decryption techniques illustrating suitable examples.

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K22U 0345

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VI Semester B.C.A. Degree (CBCSS – OBE – Regular) Examination, April 2022
(2019 Admission)
Core Course
6B19 BCA : DATA COMMUNICATION AND NETWORKS

Time : 3 Hours Max. Marks : 40

PART – A
(Short Answer)

Answer **all** questions : **(6×1=6)**

1. Expand LAN and WAN.
2. Define Computer Network.
3. What is framing ?
4. What is a datagram in network communication ?
5. Define cryptography.
6. What is Hamming Code ?

PART – B
(Short Essay)

Answer **any 6** questions : **(6×2=12)**

7. What is point to point and multipoint Line Configuration ?
8. List the advantages and disadvantages of mesh topology.
9. Write short note on bit stuffing.
10. What are the functions of Physical Layer ?
11. Differentiate Adaptive and Non-Adaptive Routing.

P.T.O.

12. What are the causes of Congestion in networks ?

13. What is symmetric and asymmetric key cryptography ?

14. Explain the three-way handshaking method for connection establishment.

PART – C
(Essay)

Answer **any 4** questions : **(4×3=12)**

15. Explain the Guided transmission mediums : coaxial cable and twisted pair cables.

16. Discuss Synchronous and asynchronous transmission.

17. Write note on Simplex Stop and Wait Protocol.

18. Explain in detail about flow based and hierarchal routing.

19. Discuss the functions and design issues of Transport Layer.

20. Write note on DES Chaining.

PART – D
(Long Essay)

Answer **any 2** questions : **(2×5=10)**

21. Explain in detail about OSI Reference Model.

22. Discuss in detail about the congestion control algorithms (Leaky Bucket and Token Bucket).

23. Explain in detail and compare the transport layer protocols TCP and UDP.

24. Write and Explain the working of the RSA Algorithm.
