Registration Number:

Date & Session

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU -27

BCA(DATA ANALYTICS) – V SEMESTER

SEMESTER EXAMINATION: OCTOBER 2022

(Examination conducted in December 2022)

BCADA5622 : COMPUTER NETWORKS

Time: 2 ½ Hours **Max Marks: 70**

This paper contains TWO printed pages and THREE parts

PART- A

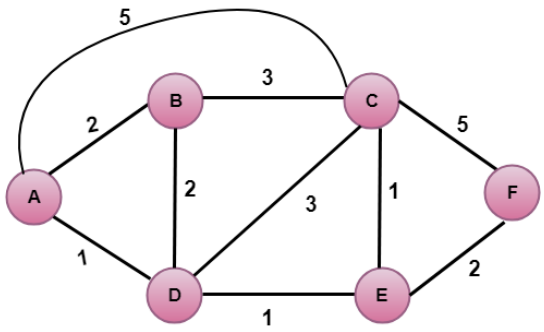
Answer all the questions **10 x 1 = 10**

1. What do you mean by Topology?
2. List out the various transmission modes.
3. What is the purpose of IP address?
4. How Logical address is different from Physical address?
5. Name the different categories of cables used for data transmission.
6. Define multi burst error.
7. What are the different categories of Routing Algorithms used?
8. What do you mean by multicast routing?
9. Define port number with an example.
10. Which is reliable TCP or UDP? Justify.

PART- B

Answer any Six questions **6 x 5 = 30**

11. Discuss any three topologies with an example.
12. Write a brief note on types of switching techniques. Explain the functionalities of Packet Switching.
13. Briefly explain the different types of Error in data link layer.
14. Name any two network connecting devices. Can a bridge replace repeater for interconnecting two segments of a network? Justify.
15. Calculate the optimum routing for the following network using Link State Protocol.



16. Discuss Leaky Bucket Algorithm with neat diagram.
17. Explain the TCP Packet format with a neat diagram.
18. Discuss any three functionalities of Transport Layer.

PART- C

Answer any THREE questions **3 x 10 = 30**

19. Describe the functionalities of various layers of OSI reference model with a neat diagram. 10

20. a) A bit stream 1111100 is transmitted using the standard CRC method with the divisor as 1001. What is the actual bit string transmitted? 7
    b) Explain in detail about Collision Detection and Collision Avoidance in Data Link Layer. 3

21. a) State the major difference between Distance Vector Routing and Link State Routing. Discuss how these routing techniques work. 7
    b) Discuss ICMP in detail. 3

22. a) Describe in detail about UDP message queue technique with a neat diagram. 4
    b) Explain in detail about congestion control mechanisms in transport Layer 6