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DCCA-501

V Semester B.C.A. Degree Examination, December/January - 2025/26
(NEP Scheme Freshers & Repeaters)
COMPUTER APPLICATIONS
Design and Analysis of Algorithms
Paper - DSC-13

NEW HORIZON COLLEGE
LIBRARY
KASTURINAGAR
BANGALORE-43

Time : 2½ Hours Maximum Marks : 60

Instructions:

Answer All the Sections.

SECTION - A

I. Answer any Six questions. Each question carries 2 marks. (6×2=12)

1. What is an Algorithm?
2. What is Time complexity?
3. What is recursive algorithm?
4. What is exhaustic search?
5. Define Binary Search.
6. What is Brute force approach?
7. What is divide and conquer technique?
8. Mention the applications of greedy Algorithm.
9. What is NP problem?

SECTION - B

II. Answer any Four questions. Each question carries 6 marks. (4×6=24)

10. Write the advantage and disadvantage of Algorithm.
11. Explain Mathematical analysis of Non-recursive Algorithm with example.

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12. Explain sequential search with an example.

13. Differentiate between BFS and DFS.

14. Explain tree traversals.

15. Explain Dijkstra's Algorithm.

SECTION - C

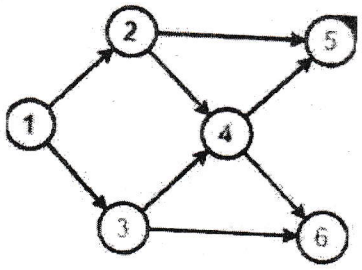
III. Answer any Three questions. Each question carries 8 marks. **(3×8=24)**

16. Discuss fundamentals of algorithmic problem solving. **(8)**

17. Explain in detail Asymptotic Notations. **(8)**

18. What is sorting? Discuss selection sort with an example. **(8)**

19. Find the Topological Order of Directed graph. **(8)**



20. Find the minimum spanning tree using Prim's method (Greedy approach) for the graph given below. **(8)**

