

DEPARTMENT OF COMPUTER APPLICATIONS

LESSON PLAN & WORK-DONE DIARY FOR AY:2025-26, EVEN SEMESTER

| Course with Code: Design and Analysis of Algorithm (BBCA402) | | | | Faculty: Mrs. Yeshashwini Bhandari K R | | Semester & Section: IV Sem | | |
|--|----------------------|--|---------------------|--|----------------------------|----------------------------|--------------|--------------------------|
| Class No. | Date planned (DD/MM) | Topics to be covered | TLP Planned | Class No. | Date of Conduction (DD/MM) | Topics Covered | TLP Executed | Remarks if any deviation |
| MODULE-1 | | | | | | | | |
| 1 | | Bridge Course: Basics of problem solving Data structures | Chalk & Talk PPT | | | | | |
| 2 | | INTRODUCTION: Algorithm | Chalk & Talk PPT | | | | | |
| 3 | | Pseudo code for expressing algorithms | Chalk & Talk PPT | | | | | |
| 4 | | Pseudo code for expressing algorithms | Chalk & Talk PPT | | | | | |
| 5 | | Performance Analysis-Space complexity | Chalk & Talk PPT | | | | | |
| 6 | | Performance Analysis-Space complexity | Chalk & Talk PPT | | | | | |
| 7 | | Timecomplexity | Chalk & Talk PPT | | | | | |
| 8 | | Asymptotic Notation | Chalk & Talk PPT | | | | | |
| 9 | | Asymptotic Notation-Big oh notation | Chalk & Talk PPT | | | | | |
| 10 | | Asymptotic Notation-Omega notation | Chalk & Talk PPT | | | | | |
| 11 | | Asymptotic Notation-Theta notation | Chalk & Talk PPT | | | | | |
| | | Quiz | | | | | | |

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| MODULE-2 | | | | | | | | |
| 12 | | DIVIDE AND CONQUER: General method | Chalk & Talk PPT | | | | | |
| 13 | | DIVIDE AND CONQUER: General method | Chalk & Talk PPT | | | | | |
| 14 | | Applications-Binary search | Chalk & Talk PPT | | | | | |
| 15 | | Applications-Quick sort | Chalk & Talk PPT | | | | | |
| 16 | | Problems: Binary search and Quick Sort | Chalk & Talk PPT | | | | | |
| 17 | | Strassen"s Matrix multiplication | Chalk & Talk PPT | | | | | |
| 18 | | Strassen"s Matrix multiplication | Chalk & Talk PPT | | | | | |
| 19 | | Finding Max Min | Chalk & Talk PPT | | | | | |
| 20 | | Finding Max Min, Selection sort | Chalk & Talk PPT | | | | | |
| | | Quiz | | | | | | |

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| MODULE-3 | | | | | | | | |
| 21 | | GREEDY METHOD: General method | Chalk & Talk PPT | | | | | |
| 22 | | Applications-Job sequencing with deadlines | Chalk & Talk PPT | | | | | |
| 23 | | Knapsack problem | Chalk & Talk PPT | | | | | |
| 25 | | Knapsack problem | Chalk & Talk PPT | | | | | |
| 26 | | Single source shortest path | Chalk & Talk PPT | | | | | |
| 27 | | Single source shortest path | Chalk & Talk PPT | | | | | |
| 28 | | Minimum cost spanning trees | Chalk & Talk PPT | | | | | |
| 29 | | Optimal storage on tapes | Chalk & Talk PPT | | | | | |
| | | Quiz | | | | | | |

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| MODULE-4 | | | | | | | | |
| 30 | | DYNAMIC PROGRAMMING: General method | Chalk & Talk PPT | | | | | |
| 31 | | Applications- Multistage graph | Chalk & Talk PPT | | | | | |
| 32 | | Applications- Multistage graph | Chalk & Talk PPT | | | | | |
| 33 | | All pairs shortest path problem | Chalk & Talk PPT | | | | | |
| 34 | | All pairs shortest path problem | Chalk & Talk PPT | | | | | |
| 35 | | Travelling salesperson problem | Chalk & Talk PPT | | | | | |
| 36 | | Travelling salesperson problem | Chalk & Talk PPT | | | | | |
| 37 | | Problems | Chalk & Talk PPT | | | | | |
| 38 | | Problems | Chalk & Talk PPT | | | | | |
| | | Quiz | | | | | | |

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| MODULE-5 | | | | | | | | |
| 39 | | Basic Traversal and Search Techniques: Binary search tree, | Chalk & Talk PPT | | | | | |
| 40 | | techniques for binary trees | Chalk & Talk PPT | | | | | |
| 41 | | techniques for graphs | Chalk & Talk PPT | | | | | |
| 42 | | connected components | Chalk & Talk PPT | | | | | |
| 43 | | spanning trees | Chalk & Talk PPT | | | | | |
| 44 | | BACKTRACKING: General method, applications- N-queen problem | Chalk & Talk PPT | | | | | |
| 45 | | Cont., Applications- N-queen problem | Chalk & Talk PPT | | | | | |
| 46 | | Sum of subsets problem | Chalk & Talk PPT | | | | | |
| 47 | | Sum of subsets problem | Chalk & Talk PPT | | | | | |
| 48 | | Hamiltonian cycles | Chalk & Talk PPT | | | | | |
| 49 | | Hamiltonian cycles | Chalk & Talk PPT | | | | | |
| | | Revision | | | | | | |
| | | Revision | | | | | | |
| | | QP Discussion | | | | | | |

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| | Activity | Planned | Actual | Remarks |
|---------------------------|--|-------------|---------------------------|---------|
| 1 | Theory Classes | 49 | | |
| 2 | Assignments/Quizzes/Activity/ Self-study | 02/02/01/01 | | |
| 3 | Tutorials/ Extra classes | 2 | | |
| 4 | Internal Assessments | 3 | | |
| 5 | ICT based Teaching (% of usage in Curriculum) | 50% | | |
| Planning | | | Execution | |
| Faculty Signature: | | | Faculty Signature: | |
| HoD Signature: | | | HoD Signature: | |