MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

DEPARTMENT OF COMUPTER SCIENCE AND ENGINEERING
2040576 DESIGNS AND ANALYSIS OF ALGORITHMS THROUGH JAVA LAB

B.Tech.II Year-II Sem
L / T / P / C
0 / 0 / 3 / 1.5

VISION

To empower the students to be technologically adept, innovative, self-motivated and responsible global citizen possessing human values and contribute significantly towards high quality technical education with ever changing world.

MISSION

M1	To offer high-quality education in the computing fields by providing an environment where the knowledge is gained and applied to participate in research, for both students and faculty.
M2	To develop the problem solving skills in the students to be ready to deal with cutting edge technologies of the industry.
M3	To make the students and faculty excel in their professional fields by inculcating the communication skills, leadership skills, team building skills with the organization of various co-curricular and extra-curricular programmes.
M4	To provide the students with theoretical and applied knowledge, and adopt an education approach that promotes lifelong learning and ethical growth.

LIST OF EXPERIMENTS

1. a). Use Eclipse or Net bean platform and acquaint with the various menus. Create a test project, adda test class, and run it. See how you can use auto suggestions, auto fill. Try code formatter and code refactoring like renaming variables, methods, and classes. Try debug step by step with a small program of about 10 to 15 lines which contains at least one if else condition and a for loop.

b). Write a java program that prints all real solutions to the quadratic equation $ax^2 +bx+c=0$. Readin a, b, c and use the quadratic formula.

c). Write a java program to implement Fibonacci series.

2. a). Write a java program to implement method overloading and constructors overloading.

b). Write a java program to implement method overriding.

c). Write a Java program to create an abstract class named Shape that contains two integers and an empty method named print Area (). Provide three classes named Rectangle, Triangle, and Circle such that each one of the classes extends the class Shape. Each one of the classes contains only the method print Area () that prints the area of the given shape.

![MLRS Logo] **MARRI LAXMAN REDDY**
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3. a). Write a java program to check whether a given string is palindrome.

b). Write a Java program to create an abstract class named Shape that contains two integers and an empty method named print Area (). Provide three classes namedRectangle, Triangle, and Circle such that each one of the classes extends the classShape. Each one of the classes contains only the method print Area () that prints thearea of the given shape.

4. Write a program to implement Knapsack problem using greedy method.

5. Write a program to implement Prim"s minimum cost spanning tree using Greedy Method

6. Write a program to implement Kruskal"s minimum cost spanning tree using Greedy Method

7. Write a program to implement Job sequencing with deadlines using Greedy Method

8. Write a program to implement Single source shortest path problem using Greedy Method

9. Write a program to implement All pairs Shortest path using Dynamic Programming

10. Write a program to implement Optimal Binary Search Tree using Dynamic Programming

11. Write a program to implement 0/1 Knapsack problem using Dynamic Programming

12. Write a program to implement n-Queen"s problem using backtracking method.

13. Write a program to implement Sum of subsets using backtracking method.

14. Write a program to implement Graph Coloring using backtracking method.

15. Write a program to implement Travelling sales person using branch and bound, dynamic programming

COURSE OUTCOMES

CO	Course Outcome
C227.1	Develop the feasible and optimal solutions using Greedy and dynamic programming.
C227.2	Develop the feasible and optimal solutions using Backtracking and Dynamic programming.
C227.3	Solve the real time problems to obtain feasible and optimal solutions by using the different design methods.
C227.4	Understand the fundamentals of Computer Algorithms.
C227.5	Create the various menus in Eclipse or Net bean platform.

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PROGRAM EDUCATIONAL OBJECTIVES

PEO1	To induce strong foundation in mathematical and core concepts, which enable them to participate in research, in the field of computer science.
PEO2	To be able to become the part of application development and problem solving by learning the computer programming methods, of the industry and related domains.
PEO3	To gain the multidisciplinary knowledge by understanding the scope of association of computer science engineering discipline with other engineering disciplines.
PEO4	To improve the communication skills, soft skills, organizing skills which build the professional qualities, there by understanding the social responsibilities and ethical attitude.

PROGRAM SPECIFIC OUTCOMES

PSO1- APPLICATIONS OF COMPUTING:

Ability to use knowledge in various domains to provide solution to new ideas and innovations.

PSO2- PROGRAMMING SKILLS:

Identify required data structures, design suitable algorithms, develop and maintain software for real world problems.

PSO3-EXECUTIVE SKILLS:

Make use of computational and experimental tools for creating innovative career paths, to be an entrepreneur and desire for higher studies.

Do's & Don'ts

- Switch off the power and unplug equipment before performing service.
- Know where the fire extinguisher is located and how to use it.
- Report fires or accidents to your lecturer/laboratory technician immediately.
- Avoid food and drinks from your workspace.
- Systems operate under normal room temperature.
- Computer lab room's floor should be clean, dry and dust free.
- No one is allowed to delete information from the computer.
- Enter the computer lab quietly and work quietly.
- Do not change computer settings or backgrounds.
- Don't plug in external devices without scanning for computer viruses.
- SAVE all unfinished work to a cloud drive or jump drive.