**Shri Ramdeobaba College of Engineering and Management, Nagpur**

**Department of Computer Application**

**Session 2021-22 (winter – 21)**

**MCA I Yr. Semester I [Shift I/II]**

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**Course Name:**Principles of Programming Languages Lab**Course Code:**MCP542

**Practical List**

**Implementation of various Data Types**

1. Write a program in C / C++ to find the sum and average of element of an array.
2. Write a program in C / C++ to Count zeroes in a matrix of 4x4 matrix.
3. Write a program to demonstrate the use of structure and nested structure
4. Write a program in demonstrate that how we can pass structures to a function.
5. Write a program in demonstrate that how we can return structure from a function
6. Write a program to access the member of union data types.

**Heap Management with various strategies.**

1. Write a program in C / C++ for matrix addition using malloc() and calloc().
2. Write a program in C / C++ for matrix Multiplication using malloc() and calloc().
3. Write a program in C/C++ for Best Fit Memory Allocation Algorithm.
4. Write a program in c/c++ to find out the enter number is Armstrong numbers or palindrome or simple number. [Note: Use Heap memory allocation concept]
5. Write a program in c/c++ to find Reverse number [Note: Use Heap memory allocation concept]
6. Write a program in c/c++ to demonstrate the use of new / delete operator.

**Implementation of Function Calling, Exception Handling mechanism, Inheritance Mechanism and Access Specifies.**

1. Write a program for calculation percentage of student (Note: Enter 5 subject marks and use function with arguments and a return value)
2. Write a program in C to find the sum of the series 1!/1+2!/2+3!/3+4!/4+5!/5 using the function.
3. Write a program for addition of matrix (Note: use function with arguments and a no return value).
4. Write a program to check that enter matrix is transpose or not.
5. Write a Simple C/C++ program for Basic Exception handling mechanism.
6. Write a Simple C/C++ program for Exception Handling Divide by zero

**Control Flow in Looping Structures**

1. Write a program to implement the concept of jump table.
2. Write a program to count number of vowels in a given word using switch statement.
3. Write a program to implement indirect recursion concept.
4. Write a program to implement tail recursion concept.
5. Write a program to implement non tail recursion concept.
6. Write a C/C++ program to implement factorial of number using tail recursion concept.

**Practical I/C’s Dr. P. S. Voditel**

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