**Practical File**

**C++ LAB (BCA-253)**

*Submitted in partial fulfilment of the requirements*

*For the award of the degree of*

**Bachelor of Computer Applications**

**Guru Gobind Singh Indraprastha University, Delhi**

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**Batch (2021 - 2024)**

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| **SNO.** | **NAME OF EXPERIMENT** | **PAGE NO.** | **SIGN** |
| 1. | WAP to check whether the number is prime or not. |  |  |
| 2. | WAP to find the reverse of an inputted number. |  |  |
| 3. | WAP to find the sum of the digits of a number. |  |  |
| 4. | WAP to find the factorial of a number. |  |  |
| 5. | WAP to print Fibonacci series |  |  |
| 6. | WAP for matrix addition, subtraction and multiplication. |  |  |
| 7. | WAP to create a structure Student and add functions to read and show details. |  |  |
| 8. | WAP to find the length of a string. |  |  |
| 9. | WAP to concatenate two strings using your defined Function. |  |  |
| 10. | WAP to show the working of a class Student add functions to read and show details. |  |  |
| 11. | WAP to define a class circle and add functions to perform following tasks. Read, display and calculate area. |  |  |
| 12. | WAP to overloaded function area ( ) for calculating the area of triangle and circle |  |  |
| 13. | WAP to create Student class and add constructors, other functions and destructor. |  |  |
| 14. | WAP a program to demonstrate constructor function overloading. |  |  |
| 15. | Program to implement const keyword. Write a program to create class complex having two data members real and imag. Define constructors default and parameterized. Define function display to display the object values with const keyword. |  |  |
| 16. | WAP to create class DISTANCE and overload Binary + ,- operator to add and subtract two objects and compare two objects using > operator, overload += and -= operators to add subtract with conceptual implementation use of specified operators. Use member functions. |  |  |
| 17. | WAP to create class COMPLEX and overload Binary +,- and \* and / operators on objects. define member functions to display objects. |  |  |
| 18. | WAP to create class COMPLEX and overload Binary +,- and \* and / operators using friend functions(operator). |  |  |
| 19. | Write a program to define object to int conversion for class distance using operator overloading.(consider all values converted to inches¬ for assignment to integer variable) |  |  |
| 20. | WAP to overload binary + operator to concatenate two objects of user defined class String. |  |  |
| 21. | WAP to overload binary +operator to add two objects of user defined Time class with data members HH MM SS. |  |  |
| 22. | WAP to show overloading of ++operator. |  |  |
| 23. | WAP to show overloading of () operator. |  |  |
| 24. | WAP to show overloading of [] operator. |  |  |
| 25. | Write a program to define class person having data members name, address, city, mobile. Person class is having two subclasses faculty having data members (course, subjects, number of subjects) and staff having data members(shorthand speed and typing speed). Implement the class hierarchy and define appropriate constructors and methods. |  |  |
| 26. | WAP to demonstrate the working of virtual function. Define class shape having one data member of float type. Define two child classes square and circle. Implement calculate\_area () function to return area in both derived classes. Define class hierarchy and appropriate functions and constructors definition. |  |  |
| 27. | WAP to implement a class Stack that throws Overflow and Underflow Exceptions. |  |  |
| 28. | WAP to implement a class Customer that throws Negative Balance Exceptions. |  |  |
| 29. | WAP to implement template function that interchanges two data values. |  |  |
| 30. | WAP to implement a generic class Stack, add necessary constructors and other functions |  |  |
| 31. | WAP that reads a text file. |  |  |
| 32. | WAP that writes paragraph to a text file. |  |  |
| 33. | WAP that writes Student records to a data file. |  |  |
| 34. | WAP that uses file pointer to display any arbitrary record from a pre existing file. |  |  |
| 35. | WAP that writes Student records to a data file. Read records based on name entered |  |  |
| 36. | Friend function as a bridge between two classes rupee and dollar. |  |  |
| 37. | Static data member and member function |  |  |

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***Subject Faculty HOD - CS***