ST. JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

III SEMESTER **COMPUTER SCIENCE**  TIME:3HRS/WEEK

COM 3303 (4) **PROGRAMMING WITH C &C++** MAX MARKS:100

w.e.f.20-21 admitted batch-“20AH” **SYLLABUS**

**OBJECTIVES :**To enable the students to:

* Describe the basics of c/c++ the programming process, and the compilation process.
* Know the design and implementation

**COURSE OOUTCOMES:**

After Completion of this course the student would be able to:

* Able to Understand And Visualise The Inner Workings Of Computer Systems.
* Describe The Advantages Of A High Level Language Like C/C++, The Programming Process, And The Compilation Process.
* Describe and Use Software Tools In The Programming Process.
* Apply good programming principles to the design and implementation of C/C++ Programs.

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| **I** | **INTRODUCTION AND CONTROL STRUCTURES:**  History of ‘C’ - Structure of C program – C character set, Tokens, Constants, Variables, Keywords, Identifiers – C data types - C operators - Standard I/O in C -Applying if and SwitchStatements |
| **II** | **LOOPS AND ARRAYS:**  Use of While, Do While and For Loops - Use of Break and Continue Statements - Array Notation and Representation - Manipulating Array Elements - Using Multi Dimensional Arrays |
| **III** | **STRINGS AND FUNCTIONS:**  Declaration and Initialization of String Variables - String Handling Functions -Defining Functions - Function Call - Call By Value, Call By Reference – Recursion |
| **IV** | **CLASSES AND OBJECTS:**  Introduction to OOP and its basic features - C++ program structure - Classes and objects - Friend Functions-Constructor – Types of constructors – Destructors. |
| **V** | **INHERITANCE:**  Inheritance - Types of Inheritance -Types of derivation- Public – Private - Protected Hierarchical Inheritance - Multilevel Inheritance – Multiple Inheritance - Hybrid Inheritance |

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ST. JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

III SEMESTER **COMPUTER SCIENCE**  TIME:3HRS/WEEK

COM 3351(3) **PROGRAMMING WITH C &C++ LAB** MAX MARKS:100

w.e.f.20-21 admitted batch-“20AH” **SYLLABUS**

**OBJECTIVES:**To enable the students to:

* Describe the basics of SQL and construct queries using SQL.
* Know query languages associated with relational models

**COURSE OUTCOMES:**

After Completion of this course the student would be able to:

* Able to Understand And Visualise The Inner Workings Of Computer Systems.
* Describe The Advantages Of A High Level Language Like C/C++, The Programming Process, And The Compilation Process.
* Describe and Use Software Tools In The Programming Process.
* Apply good programming principles to the design and implementation of c/c++ programs.

1. Write C programsfor
   1. FibonacciSeries
   2. Primenumber
   3. Palindromenumber
   4. Armstrongnumber.
2. ‘C’ program for multiplication of twomatrices
3. ‘C’ program to implement stringfunctions
4. ‘C’ program to swapnumbers
5. ‘C’ program to calculate factorial using recursion
6. ‘C++’ program to perform addition of two complex numbers usingconstructor
7. Write a program to find the largest of two given numbers in two different classes using friendfunction
8. Program to add two matrices using dynamiccontructor
9. Implement a class string containing the following functions:
   1. Overload + operator to carry out the concatenation ofstrings.
   2. Overload == operator to carry out the comparison ofstrings.
10. Program to implementinheritance.

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