Computer Programming

Skill Based Elective– I **(Semester – III)**

Programming in C

Unit - I

Introduction to computer, hardware, software – Programming, algorithm, flowchart. Programming Languages – low level language (machine language) – high level language.

Unit - II

Introduction to C – general structure of a C program – C tokens –variables-keywords-constants-dentifiers-operators-separators-I/Ostatements-headerfiles-compile-run-debug.

Unit - III

I/O statements - Control structures – simple if – if…else… - nested if... else… - else… if... ladder – switch statement - ? - goto.

Unit – IV

Looping – do... while… – while... do… - for loop – jump in loops. Arrays: one dimension arrays – two dimension arrays – multi dimension arrays. String handling functions-string copy-string concatenation-string comparison-string length-string reverses.

Unit- V

Functions: user defined function – Library function - calling a function– call by value- call by address-recursion. Introduction to Pointers – Structures - Union.

References

Balagurusamy, E., Programming in ANCI C, Tata Mc Graw Hill, New Delhi, 2000

Skill Based Elective– II (Semester – IV)

Programming with CPP

Unit - I

Introduction to C++ - difference between C & C++ - OOPS Concept – structure of C++ program - i/o statements

Unit - II

Classes and objects - access modifiers – inline function – friend function - arrays

Unit - III

Constructor – multiple constructors – copy constructor- destructor

Unit - IV

Inheritance - single Inheritance-multiple Inheritance – multilevel Inheritance-hybrid Inheritance-hierarchical Inheritance

Unit - V

Compile time polymorphism - Overloading: operator overloading, function overloading

References

Balagurusamy, E., Programming in C++, Tata Mc Graw Hill, New Delhi, 2001

Skill Based Elective – III (Semester – V)

Java Programming

Unit-I

Introduction to Java – difference of java and C, C++ - structure of java program – setting path-compiling and running a java program- working of java virtual machine- java tokens – data types

Unit-II

OOPs concept – control structures- classes, objects and methods –method overriding – method overloading

Unit-III

Arrays, strings – string buffer and vectors – interfaces –Implementing and extending interfaces.

Unit-IV

Packages - creating and exporting a package- exception handling – try, catch, throw.

Unit-V

Introduction to threads – multithreaded programming – Introduction applets- applications of using java.

References

Balagurusamy, E., Programming with JAVA, Tata Mc Graw Hill, 2002
C. Muthu, " Programming with JAVA", Thomson, 2005

Skill Based Elective – IV (Semester – V)

C Programming Lab

Find the greatest of three numbers?

Write the program to find the sum of n numbers?

Write the c program calculates n number factorial?

Find the series of fibonacci?

Calculate the simple, compound interest using the c program?

Perform of the following string operations using c?

- String length and string copy.
- String comparison and concatenation.
- Palindrome checking

Write a program to manipulate the mattie manipulation.

- Addition
- Multiplication

Compute the quadratic equation in c program.

Write a program to swap 2 numbers.

Write a program to sort given numbers.

Calculate the palindrome for given string?

Using switch case perform the inventory (or) item bill?

Write a program to clculate the pascal triangle?

Write a c program print a pyramid shape of numbers?

Using recursion calculate factorial and fibonacci of the n numbers?

Using pointers swap two numbers?

Write a c program to convert franheit to celsisus.

Prepare an employee payroll using structure?

Write a c program to calculate the multiplication table?

Write a program for calling a function?

- Call by value
- Call by address

References

Balagurusamy, E., Programming in ANCI C, Tata Mc Graw Hill, 2000

Skill Based Elective – V (Semester – VI)

CPP Programming Lab

Using function overloading. Calculate the volume of cone, cylinder and rectangle?

Prepare a mark sheet using multiple inheritances.

Write a program for a copy constructor and multiple constructors?

Calculate average of age using single inheritance?

Write a program to perform operator overloading?

Calculate the volume and area of the rectangle and cone by using inline function?

Write the program to access the private data using friend function?

Prepare the inventory bill using classes and objects.

Write a c++ program for calculating the student mark sheet using multilevel inheritance and single inheritance.

Write a c++ program for the given

Fibonnaci using constructor

Copy constructor

Destroying the objects using destructors.

Virtual polymorphism.

References

Balagurusamy, E., Programming in C++, Tata Mc Graw Hill.2001

Skill Based Elective – VI **(Semester – VI)**

Java Programming Lab

Program that apply the concept of method over riding?

Program for packages that implements arithmetic manipulations?

Create an applet program that draws line, circle and rectangle.

Create an interface for student mark list / employee details.

Program that implements string and string buffer class?

Write a program that draws the following FIGURES ONE ABOVE THE OTHER.

```
*****      *
*****     **
*****    ***
*****   *****
```

Write a program that prints all the integers between 0 and 36.

Write a program to print Fibonacci series.

Write a program to convert Fahrenheit to centigrade and centigrade to Fahrenheit.

Write a program to run applet viewer

References

Balagurusamy, E., Programming with JAVA, Tata Mc Graw Hill, 2002
C. Muthu, " Programming with JAVA", Thomson, 2005