# MANGALORE UNIVERSITY

## DEPARTMENT OF MARINE GEOLOGY

### MSc PROGRAMME IN GEOINFORMATICS

**GIP 405: COMPUTER: (SOFTWARE AND HARDWARE) AND WEB DESIGNING (LAB H)**

**Course Outcome:**

CO1: Apply algorithmic, mathematical and scientific reasoning to a variety of computational problems related to geosciences.

CO2: Create Geodatabases and web pages

CO3: Identify the theoretical and methodological foundations of programming including C, C++ and Python.

CO4: Work on hands-on analytical skills in C, C++ software packages.

CO5: To relate computer science to geo-spatial applications

CO6: An ability to communicate effectively with a range of audiences

CO7: Image processing techniques from Computer Science to turn the data into information.

**Introduction to Visual Basics**. Use of Visual Basics. Applications of Visual Basics.

**C programming:** character set, data types, variable constants, operators: arithmetic, logical, bitwise, special operators in C

**C Programming:** C Basics, Implementing OOP concepts in C, Properties, Indexers, Delegates and Events, Windows Forms Basics, Windows forms Controls, Debug, Test, Exception Handling, Assemblies and Reflection, Threading Array list and collections, File Handling in C.

**C $^{++}$ Programming:** Basics of $C^{++}$, Tokens , Expressions, control structures, Functions of $C^{++}$, Classes & Objects, Constructors & Destructors, Operator Overloading and type Conversions, Inheritance: Extending Classes, Pointers, Virtual Functions, Polymorphism, Object Oriented Systems & Development, New Features of Ansi $C^{++}$ Standard

**Oracle:**Physical and logical structuring in Oracle Queries

**SPSS**: Introduction to SPSS. Use of SPSS in creating a data base. Application of SPSS in Correlation Co-efficient. Use of SPSS in Linear Regression,

Modelling and Prediction. Application of SPSS in GIS data modelling.

Application of Java to Geoinformatics data.

Introduction to WEB and its Applications in Geoinformatics.