MARIS STELLA COLLEGE, VIJAYAWADA-8

(An autonomous college affiliated to Krishna University)

Department of Computer Science

Academic Year 2019 – 2020

Title   : Programming in Java

Semester   : V   **Paper Code: COMPC076**

Course Objectives:

- This course provides an introduction to object oriented programming (OOP) using the Java programming language.
- Its main objective is to teach the basic concepts and techniques which form the object oriented programming paradigm.
- The use of Java in a variety of technologies and on different platforms.

Course Outcomes: At the end of this course student will:

1. Understand the concept and underlying principles of Object-Oriented Programming.

2. Understand how object-oriented concepts are incorporated into the Java programming language.

3. The model of object oriented programming: abstract data types, encapsulation, inheritance and polymorphism

4. Fundamental features of an object oriented language like Java: object classes and interfaces, exceptions and libraries of object collections

5. How to take the statement of a business problem and from this determine suitable logic for solving the problem; then be able to proceed to code that logic as a program written in Java.

6. How to test, document and prepare a professional looking package for each business project using java doc.

7. Develop problem-solving and programming skills using OOP concept.

8. Develop the ability to solve real-world problems through software development in high-level programming language like Java.

9. Develop efficient Java applets and applications using OOP concept.

Syllabus

UNIT – I: **6 Hrs**

Object Oriented Programming Concept: Introduction, Object-Oriented Paradigm, Basic Concepts of Object-Oriented Programming, Difference between C++ and JAVA.
 Introduction to Java: Features of Java, JDK Environment

UNIT – II: **8 Hrs**

Java Programming Fundamental: Structure of java program, Data types, Variables, Operators, Keywords, Decision Making (if, switch), Looping (for, while), Type Casting.
Classes and Objects: Creating Classes and objects, Constructor, Inheritance, Method Overloading, Method Overriding.

UNIT - III: **6 Hrs**

 Arrays and Strings: Arrays, Creating an array, Types of Arrays, String class Methods, String Buffer methods.

Abstract Class, Interface and Packages: Visibility Control, Abstract classes and methods, Interfaces, Packages, Creating user defined packages.

UNIT IV: **8 Hrs**

Exception Handling: Exceptions, Using try catch and finally, Creating User defined Exceptions.

Applet Programming: Introduction, Types Applet, Applet Life cycle, Creating Applet, Applet tag.

UNIT V: **7 Hrs**

File Handling: Byte Stream Classes, Character Stream Classes, File Operations, Creating file, Reading file and Writing File.

Prescribed book: "Programming with Java-A primer",   3nd Edition, Tata McGraw Hill. E.Balaguruswamy.

Reference Book: Herbert Schildt. "Java – The Complete Reference", 5th Edition, Tata McGraw Hill.

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BLUE PRINT OF MODEL PAPER

❖ The paper consists of two sections.

❖ All questions are compulsory from all parts.

SECTION – A

❖ Consists of Ten short answer questions from five units.

❖ Each question carries **1 Mark.**

SECTION – B

❖ Consists of five essay answer questions from **five units** with internal choice.

❖ Each question carries **10 Marks.**

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Model Question Paper

Title   :   **Programming in Java**

Paper Code: **COMPC076**   **Max. Marks: 60**

Semester   : **V**   **Time: 3 Hrs**

Section – A

Answer all the questions.   10*1=10M
1.
a. Difference between C++ and JAVA
b. Write a short note on JDK Environment
c. Write a short note on inheritance
d. Write a short note on Constructor
e. Write a short note on keywords
f. What is an interface? Give the syntax of an interface?
g. Write a short note on Arrays
h. What is the use of the keyword "throw"?
i. Write a short note on Applet types
j. write a short note on file operations.

Section – B

Answer the following: 5*10=50M
2. (a). Explain the Features of java?
                          OR
   (b) Explain the Basic Concepts of Object-Oriented Programming.
3. (a). Explain about Decision making statements in java.
                          OR
   (b).Explain about Method Overloading and Overriding with examples.
 4. (a). Explain in detail about Strings.
                          OR
   (b). Describe all the API Packages? Give the naming conventions of a package with
      an example.
5. (a). What is an exception? Explain how exception handling is used for debugging a
      Program?
                          OR
   (b). What is an Applet? Expain about the Life Cycle of an Applet.
6. (a). Explain about Byte Stream Classes and Character Stream Classes.
                          OR

  (b) Explain about Creating file, Reading file, Writing File.