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| **Name of The Course** | **Object Oriented Programming with Java** | | | | |
| **Course Code** | MCAN1211 | | | | |
| **Prerequisite** | C | | | | |
| **Corequisite** |  | | | | |
| **Antirequisite** |  | | | | |
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**Course Objectives:** To implement Java language syntax and semantics and concepts such as classes, objects, inheritance, polymorphism, packages, and multithreading.

**Course Outcomes**

**At the end of the course student will be able to:**

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| **CO1** | Setting Java environment and executing Java Programs |
| **CO2** | Understand and formulate the problems in basic programming constructs |
| **CO3** | Applying OOP concepts to solve real world problems |
| **CO4** | Implement inheritance and polymorphism features of Java |
| **CO5** | Implementing multithreading to enhance efficiency and handle run time errors |
| **CO6** | Understanding the latest advances and its applications in Network Programming. |

**Text Book (s):** 1.Schildt H, “The Complete Reference JAVA2”, TMH

**Reference Book (s) : 1.**

1. Java Fundamentals A comprehensive introduction By Herbert Schildt, Dale Skrien, McGraw Hill Education.
2. Programming with Java A Primer – E. Balaguruswamy, Mc Grawhill

**List of Experiments:**

Exp-1 : **Wap a java program to print "Hello World." WAP in java to print the values of various primitive data types.**

Exp-2 : **WAP java program to find sum of odd number and even number.**

Exp-3 : **WAP in java to find factorial of any given number using recursion.**

Exp-4 : **Write a program to read an integer value through Scanner class and find prime number within given range.**

Exp-5 :  **Write a program that uses length property for displaying any number of command line arguments.**

Exp-6 : **Wap in java to sort n numbers using bubble sort,selection and insertion .**

Exp-7 : **WAP a java to find addition and multiplication of two Matrices.**

Exp-8 : **WAP to find largest among n numbers.**

Exp-9 : **write java program to implement getter and setter method.**

Exp-10 :  **Write a program to create constructor of a class and initialize values in it and later print them.**

Exp-11 :**Write a java code to implement the concept of method overloading and constructor overloading.**

Exp-12 : **Create a class Shape and override area () method to calculate area of rectangle, square and circle.**

Exp-13 : **Write a program to implement the concept of abstract classes and interface.**

Exp-14 : **Write a java code to implement the concept of simple inheritance, multilevel inheritance, and hierarchical inheritance.**

Exp-15 : **Write a program to implement multiple inheritances using interface.**

Exp-16 : **Write programs for Exception handling using try, catch, throw and finally.**

Exp-17 : **Write a java program to implement the usage of customized exceptions**

Exp-18 :  **Implement concept of multithreading in Java by**

**a)      Extending Thread class**

**b)      Implementing Runnable interface**

Exp-19 :  **Wap create file using File Class and copy data from on file to another file.**

Exp-20 : **Wap to read object and write into file using Serializable Interface.**

**Continuous Assessment Pattern**

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| **Internal Assessment (IA)** | **End Term Test (ETE)** | **Total Marks** |
| 70 | 30 | 100 |