# MALLA REDDY ENGINEERING COLLEGE

## (Autonomous)

### Maisammaguda(H), Gundlapochampally Village,Medchal Mandal, Medchal-Malkajgiri District, Telangana State – 500100

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## CIRCULAR

Date: 07/07/2017

All the 2$^{nd}$/I Year/Sem students are hereby informed that the Malla Reddy Engineering College (Autonomous) is planning to organize Value Added Courses like Autonomous Robotics -I, Graphic Designing - I & II, Green Matte Studio - Audio Effects & Transitions, Design for Additive Manufacturing  (Introduction to 3D Modeling), Data Science With R Programming, Foundations Of JAVA in Centre Of Excellence. In this regard Interested students are hereby directed to register for this Courses on or before 12/07/2017. For further details, please contact Centre of Excellence, MREC(A)
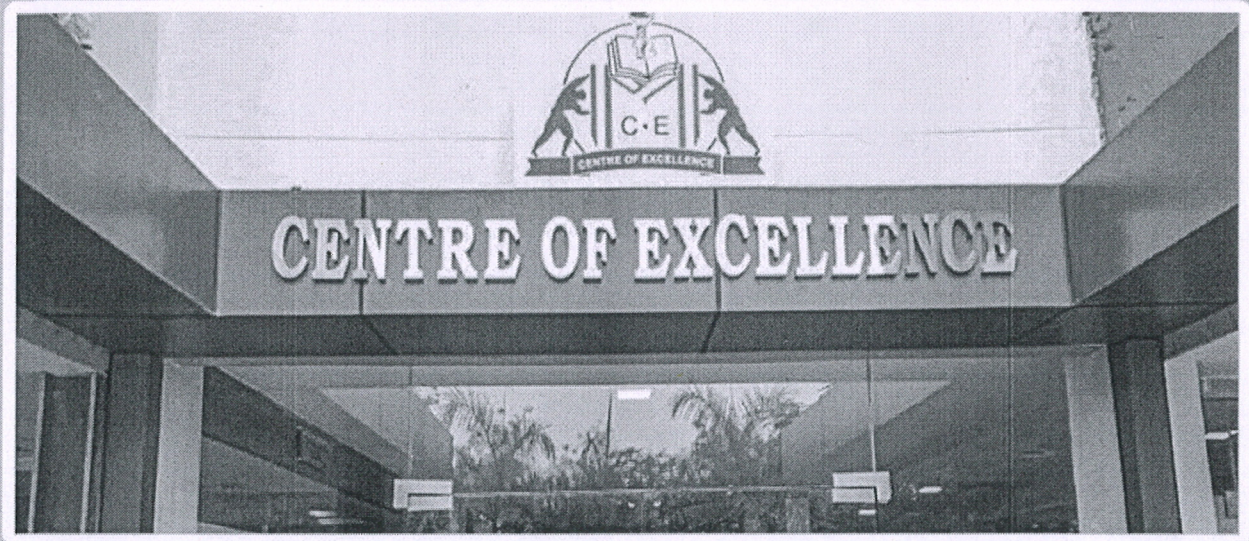
Principal

Principal
Malla Reddy Engineering College
Maisammaguda, Dhulapally,
(Post Via Kompally), Sec'bad-500100

Copy to;

1. All HOD's-for information & circulation among staff
2. To be displayed in all notice board
3. Controller of Examination
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7. Physical Director-for necessary action
8. Security Officer-for necessary action
9. Transport Manager-for necessary action
10. TEQIP Coordinator & Academic Cell
11. Admin Office
12. System Admin
13. Placement Cell
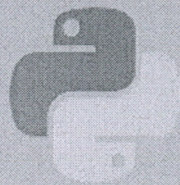14. PA to Principal for Filling

# MALLA REDDY ENGINEERING COLLEGE

## MAIN CAMPUS, AUTONOMOUS INSTITUTION

Maisammaguda, Dhulapally (Post) via Kompally,
Secunderabad-500100Medchal - Malkajgiri District Telangana, India



CENTRE OF EXCELLENCE

## COMPUTER SOFTWARE

### HTML ,PYTHON WITH DJANGO ,JAVA , SCRATCH PROGRAMMING

LAB VIEW, FOUNDATION OF BLOCK CHAIN,
MATLAB, BLOCK CHAIN REVOLUTION, MATLAB PRO,
ADVANCE JAVA, ADVANCE PYTHON.



python    Java

## Course Duration -: 4 Months

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## Before Software can be Reusable
## it First has to be Usable.

**MALLA REDDY ENGINEERING COLLEGE**

(An UGC Autonomous Institution, Affiliated to JNTUH,
Accredited 2nd time by NAAC with 'A' Grade & NBA)
Maisammaguda (H), Medchal-Malkajgiri District,
Telangana State – 500100

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**Course Name: Fundamentals of Java**

Module 1- Introduction

Types of Programming language and Paradigms. Java – what, where and why?, Platform independency, Comparison in Java with C and C++, Role of Java Programmer in Industry. Java Evolution and History, Features of Java Language.

The Java Virtual Machine (JVM) – The heart of Java., Java's Magic Byte code, JDK , JRE and JIT, Reserve / Keywords present in Java Lexical Tokens, Identifiers

Primitive Data types and Block in java

Data types -int , char , float , double , Boolean , short , long , byte, UNICODE system, Value type, Reference type.

Types and Scope of variables, Static variables, Instance, variable, Local variables, final

variable, transient variable, volatile variable. Static block and Non-static block. Static, non-static, final, abstract,

native and synchronized Communicate java application with other language using java native interface.

Java Operators

Arithmetic operators, Relational operators, Logical operators, Shift operators, Assignment Operators,Unary operator, Bitwise operators, Special operators. Ternary operator

Decision making and branching programming with Java,

If statement, If….Else statement and if….else, ladder. Nested if Multiple if, Switch... case statement, Conditional operator vs. if statement, Break and continue in java

Decision making and looping - While, Do, For, For each

Class Fundamentals,

Object & Object reference, Life time of object & Garbage Collection, Creating with Operating reference and Objects, Constructor & initialization code block, Access Control, Modifiers, methods Nested, Inner Class & Anonymous Classes Abstract Class & Interfaces Defining Methods, Argument Passing Mechanism Method Overloading, Recursion.

Dealing with Static Members, Finalize () Method, Native Method, Use of "this" reference, Use of Modifiers with Classes & Methods, Design of Accessors and Mutator Methods Cloning Objects, shallow and deep cloning Generic Class Types

Extending Classes and Inheritance

Types of Inheritance in Java, ole of Constructors in inheritance. Polymorphism in OOP, Overriding Super Class Methods.

Use of "super" keyword, Restriction in case of method, overriding, Type Compatibility and Conversion

Implementing interfaces, Dynamic method dispatching by down-casting and up-casting.

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Package

Organizing Classes and Interfaces, in Packages, Package as Access Protection, Defining Package. Advantage of package, Sub-Package CLASSPATH Setting for Packages. Making JAR Files for Library Packages, Import and Static Import Creating .EXE and jar executable file.

Exception Handling

The Idea behind Exception, Exceptions & Errors, Types of Exception, Checked and Un-Checked Exceptions, Control Flow in Exceptions, Use of try and catch block, Multiple catch block Nested try, finally block, throw keyword, Exception Propagation, throws keyword, Exception Handling with Method Overriding, In-built and User Defined Exceptions, Exception handling rule in case of method overriding. How to handle unreachable statements using finally.

Arrays

Defining an Array, Single–Dimensional Array, Initializing & Accessing Array, Multi –Dimensional Array, Jagged Array
Arrays class, Methods in Arrays class, Sorting the elements of Array, Searching, insert, delete, dynamically.Matrix multiplication, addition, transpose, upper triangular,mlower triangular, sparse matrix.

String

what and why Operation on String, Immutable String, String comparison and concatenation, Method of String class, StringBuffer class and its methods. StringBuilder class in java. Creating Immutable class like String. Using Collection Bases Loop for String, Tokenizing a String, Object comparisons using
Comparator and comparable interface.

Input/output Operation in Java (java.io Package) Streams and the new I/O Capabilities Understanding Streams File class and its methods. Creating file and folder using java code. The Classes for Input and Output FileOutputStream & FileInputStream FileWriter & FileReader Input from keyboard by InputStreamReader Input from keyboard by Console Input from keyboard by Scanner PrintStream class PrintWriter class

| | MALLA REDDY ENGINEERING COLLEGE (Autonomous) Maisammaguda(H), Gundlapochampally Village, Medchal Mandal, Medchal-Malkajgiri District, Telangana State - 500100 | Course:FOUNDATIONS OF JAVA |
|---|---|---|
| | | Date:12/07/2017 to 11/11/2017 |

## Registered  Students

| SL.No | Roll No | NAME | BRANCH |
|---|---|---|---|
| 31. | 16J41A0104 | AKKALA SNITHIKA | CE |
| 32. | 16J41A0109 | B.KARTHIK | CE |
| 33. | 16J41A0115 | BOUTHU RAJESH | CE |
| 34. | 16J41A0121 | EDIGI KEERTHICHANDANA | CE |
| 35. | 16J41A0133 | MASKE VAISHNAVI | CE |
| 36. | 16J41A0213 | CHILAKARAJU SAISREENADH | EEE |
| 37. | 16J41A0216 | DARAMONI SNEHARIKA | EEE |
| 38. | 16J41A0220 | G. VENKAT SURENDRA REDDY | EEE |
| 39. | 16J41A0225 | K.BHAGYA LAKSHMI | EEE |
| 40. | 16J41A0229 | KOKKULA HARIKRISHNA | EEE |
| 41. | 16J41A0231 | KOTHLAPURAM AKSHAYA | EEE |
| 42. | 16J41A0305 | BILLURI HARSHA VARDHAN REDDY | ME |
| 43. | 16J41A0309 | CHANDA VIJAY RAMA RAO | ME |
| 44. | 16J41A0317 | JADHAV YOGESHWAR | ME |
| 45. | 16J41A0329 | MANDE SAI LAXMAN | ME |
| 46. | 16J41A0334 | NANDI REDDY NITTESH KUMAR | ME |
| 47. | 16J41A0336 | PARCHA RISHI KASYAP | ME |
| 48. | 16J41A0402 | ANNAPARTHI SREE DIVYA | ECE |
| 49. | 16J41A0405 | BATHULA SRAVANI | ECE |
| 50. | 16J41A0416 | D.RAMANI | ECE |
| 51. | 16J41A0422 | JAHNAVI POLEPAKA | ECE |
| 52. | 16J41A0428 | KONDAPALLY MEGHANA REDDY | ECE |
| 53. | 16J41A0432 | MOHAMMED IRFAN | ECE |
| 54. | 16J41A0501 | A LAKSHMI PRATYUSHA | CSE |
| 55. | 16J41A0509 | CH.VENKATA RAJASHEKAR REDDY | CSE |
| 56. | 16J41A0517 | GOLLA JOSEPH LIVINGSTON | CSE |
| 57. | 16J41A0525 | KANAKA DEEPIKA | CSE |
| 58. | 16J41A0526 | KANDIKATLA PRADEEP | CSE |
| 59. | 16J41A0531 | KOVURI GOPI RAJ | CSE |

# SUMMARY

## FOUNDATIONS OF JAVA

Java is a high-level programming language developed by Sun Microsystems. It was originally designed for developing programs for set-top boxes and handheld devices, but later became a popular choice for creating web applications. The Java syntax is similar to C++, but is strictly an object-oriented programming language.

can be used to develop software for mobile devices, browser-run applets, games, as well as desktop, enterprise (server-side), and scientific applications.

Java platform consists of Java virtual machine (JVM) responsible for hardware abstraction, and a set of libraries that gives Java a rich foundation.

Java tools include the Java compiler as well as various other helper applications that are used for day-to-day development (e.g. debugger).

**Object Oriented**

Everything in Java is coded using OO principles. This facilitates code modularization, reusability, testability, and performance.

**Interpreted/Portable**

Java source is complied into platform-independent bytecode, which is then interpreted (compiled into native-code) at runtime. Java's slogan is "Write Once, Run Everywhere"

**Simple**

Java has a familiar syntax, automatic memory management, exception handling, single inheritance, standardized documentation, and a very rich set of libraries (no need to reinvent the wheel).

**Secure/Robust**

Due to its support for strong type checking, exception handling, and memory management, Java is immune to buffer- overruns, leaked memory, illegal data access. Additionally, Java comes with a Security Manager that provides a sand-box execution model.

**Scalable**

Thanks to its overall design, Java is scalable both in terms of performance/throughput, and as a development environment. A single user can play a Java game on a mobile phone, or millions of users can shop though a Java-based e-commerce enterprise application.

**High-performance/Multi-threaded**

With its HotSpot Just-in-Time compiler, Java can achieve (or exceed) performance of native applications. Java supports multi-threaded development out-of-the-box.

**Dynamic**

Java can load application components at run-time even if it knows nothing about them. Each class has a run-time representation.

**Distributed**

Java comes with support for networking, as well as for invoking methods on remote (distributed) objects through RMI.

# MALLA REDDY ENGINEERING COLLEGE

## MAIN CAMPUS, AUTONOMOUS INSTITUTION

### Certificate

### Of the Course Completion

This is to Certify that

**AKKALA SNITHIKA**

has Sucessfully Completed Foundations of Java Offered by Centre of Excellence, MREC(A) on ___11/11/2017___ bearing with Roll No. ___16J41A0104___ and Branch ___CE___ .

Dr.Yogesh Madaria
CONVENOR

Ravendr

**Principal**
**Malla Reddy Engineering College**
**Maisammaguda, Dhulapally,**
**(Post Via Kompally), Sec'bad-500100**

Dr.S.Sudhakara Reddy
Conference Chair & Principal

# MALLA REDDY ENGINEERING COLLEGE

## MAIN CAMPUS, AUTONOMOUS INSTITUTION

# Certificate

## Of the Course Completion

This is to Certify that

### K.BHAGYA LAKSHMI

has Sucessfully Completed Foundations of Java Offered by Centre of Excellence, MREC(A) on __11/11/2017__ bearing with Roll No. __16J41A0225__ and Branch __EEE__ .

Dr.Yogesh Madaria
CONVENOR

Ravmeendr
**Principal**
**Malla Reddy Engineering College,**
**Maisammaguda, Dhulapally,**
**(Post Via Kompally), Sec'bad-500100**

Dr.S.Sudhakara Reddy
Conference Chair & Principal

# MALLA REDDY ENGINEERING COLLEGE

## MAIN CAMPUS, AUTONOMOUS INSTITUTION

### Certificate
### Of the Course Completion

This is to Certify that

**MANDE SAI LAXMAN**

has Sucessfully Completed Foundations of Java Offered by Centre of Excellence, MREC(A) on __11/11/2017__ bearing with Roll No. __16J41A0329__ and Branch __ME__ .

Dr.Yogesh Madaria
CONVENOR

Dr.S.Sudhakara Reddy
Conference Chair & Principal

**Principal**
**Malla Reddy Engineering College**
Maisammaguda, Dhulapally,
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