**DEPARTMENT OF COMPUTER SCIENCE ENGINEERING**



**LESSON PLAN**

**SUBJECT: OBJECT ORIENTED METHODOLOGY USING JAVA**

 **BRANCH: 3RD SEM, CSE**

 **FACULTY NAME: DR. ANITARANI BRAHMA**

**Government Polytechnic, Bargarh**

**OBJECTIVE:**

 After completion of this course the student will be able to:

• Understand the concepts of OOPs, their advantages and applications

• Comprehend the features of Java

• Know to create classes, objects, methods

• Know the concepts and advantages of overloading methods and type conversions

• Appreciate the concepts of inheritance and the various types of inheritance.

• Understand the use of Interfaces and system packages

• Use the various operations of files to perform file operations

• Understand the concept of managing errors and exceptions

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| **GOVERNMENT POLYTECHNIC BARGARH** |
| **Discipline: Computer Science Engineering** | **Name of the Faculty: Dr. Anitarani Brahma** |
| **Sem: 3rd** | **No. of periods per week: 04** **No. of week: 15** **No. of periods: 60** |
| **Subject: Object Oriented Methodology** |
| **WEEK** | **CLASS** | **TOPIC** | **TEACHING METHODS** |
| 1 | 1 | Programming Languages | PPT |
|  | 2 | Object Oriented Programming | PPT |
|  | 3 | OOPS concepts and terminology | PPT |
|  | 4 | Benefit of OOPS | PPT |
| 2 | 4 | Application of OOPS | PPT |
|  | 5 | QUIZ |   |
|  | 6 | What is Java | PPT |
|  | 6 | Execution Model of Java | Chalk & Talk |
|  | 7 | The Java Virtual Machine | Chalk & Talk |
|  | 7 | A First Java Program | Chalk & Talk |
| 3 | 8 | Variables and Data types | Chalk & Talk |
|  | 8 | Primitive Datatypes & Declarations | PPT |
|  | 9 | Numeric and Character Literals | PPT |
|  | 10 | String Literals | PPT |
| 4 | 11 | Arrays, Non-Primitive Datatypes | Chalk & Talk |
|  | 12 | Casting and Type Casting | Chalk & Talk |
|  | 13 | Widening and Narrowing Conversions | Chalk & Talk |
|  | 14 | Operators and Expressions | PPT |
| 5 | 15 | Control Flow Statements | PPT |
|  | 16 | QUIZ |   |
|  | 17 | Defining a Class | Chalk & Talk |
|  | 18 | Concept and Syntax of Methods | Chalk & Talk |
|  | 18 | Defining Methods | Chalk & Talk |
| 6 | 19 | Creating an Object | Chalk & Talk |
|  | 19 | Accessing Class Members | Chalk & Talk |
|  | 20 | Instance Data and Class Data | Chalk & Talk |
|  | 21 | Constructors | Chalk & Talk |
|  | 22 | Access specifiers | Chalk & Talk |
| 7 | 23 | Access Control | Chalk & Talk |
|  | 24 | QUIZ |   |
|  | 25 | String Builder and String Buffer | Chalk & Talk |
|  | 26 | Methods and Messages | Chalk & Talk |
|  | 26 | Parameter Passing | Chalk & Talk |
|  | 26 | Parameter Passing | Chalk & Talk |
| 8 | 27 | Comparing and Identifying Objects | Chalk & Talk |
|  | 27 | QUIZ |   |
|  | 28 | Inheritance in Java | PPT |
|  | 28 | Use of Inheritance | PPT |
|  | 29 | Types of Inheritance | PPT |
| 9 | 30 | Single Inheritance | Chalk & Talk |
|  | 31 | Multi-level Inheritance | Chalk & Talk |
|  | 32 | Hierarchical Inheritance | Chalk & Talk |
|  | 33 | Hybrid Inheritance | Chalk & Talk |
| 10 | 34 | QUIZ |   |
|  | 35 | Types of Polymorphism | Chalk & Talk |
|  | 36 | Method Overloading | Chalk & Talk |
|  | 37 | Method Overloading | Chalk & Talk |
| 11 | 38 | Run time Polymorphism | Chalk & Talk |
|  | 39 | Method Overriding | Chalk & Talk |
|  | 40 | QUIZ |   |
|  | 41 | Introduction | PPT |
|  | 41 | Java API Packages | PPT |
| 12 | 42 | Using System Packages | PPT |
|  | 43 | Naming Convention | PPT |
|  | 44 | Creating Packages | PPT |
|  | 45 | Accessing a Package | PPT |
|  | 45 | Using a Package | PPT |
|  | 45 | Adding a Class to Package | PPT |
| 13 | 46 | QUIZ |   |
|  | 47 | Hiding Classes | Chalk & Talk |
|  | 47 | Static Import | Chalk & Talk |
|  | 48 | What is a stream ? | Chalk & Talk |
|  | 48 | Reading and writing to files(only txt files | Chalk & Talk |
|  | 48 | Input and Output Stream | Chalk & Talk |
|  | 49 | Manipulating Input data | Chalk & Talk |
|  | 49 | Opening and Closing Streams | Chalk & Talk |
|  | 49 | Predefined streams | Chalk & Talk |
|  | 50 | File handling Classes and Methods | Chalk & Talk |
| 14 | 51 | QUIZ |   |
|  | 52 | Exceptions Overview | Chalk & Talk |
|  | 52 | Exception Keywords | Chalk & Talk |
|  | 53 | Catching Exceptions | Chalk & Talk |
|  | 54 | Using Finally Statement | Chalk & Talk |
|  | 55 | Exception Methods | Chalk & Talk |
| 15 | 56 | Declaring Exceptions | Chalk & Talk |
|  | 57 | Defining and throwing exceptions | Chalk & Talk |
|  | 58 | Errors and Runtime Exceptions | Chalk & Talk |
|  | 59 | PREVIOUS YEAR QUESTIONS DISCUSSION | PPT |
|   | 60 | Doubt Clearing Class |   |

Books Recommended:-

01 E. Balaguruswami Programming With Java A Primer The McGraw-Hill Companies

02 Patric Naughton Herbert Schildt JavaTM 2: The Complete Reference Tata McGraw-Hill Publishing Company Limited

03 Rashmi Kanta Das Core Java For Beginners Vikas Publishing

04 Herbert Schildt Java: A Beginner‟s Guide McGraw-Hill Education

05 Cay S. Horstmann Core Java Volume I - Fundamentals Prentice Hall

 

 Faculty Senior Lecturer