| PRO | GRAMMING IN | JAVA | |
|--|--|---|---|
| As per Choice E | Based Credit Syste | em (CRCS) sohomel | |
| (Effective fro | om the academic y | ear 2016 -2017) | |
| Subject Code | SEMESTER - V | 7 | |
| | 15CS561 | IA Marks | 20 |
| Number of Lecture Hours/Week | 3 | Exam Marks | |
| Total Number of Lecture Hours | 40 | Exam Hours | 80 |
| | CREDITS - 03 | Lixaiii Hours | 03 |
| Course objectives: This course will | enable students to | | |
| Learn fundamental feature | es of object oriente | od longer | |
| | | | |
| Learn object oriented cor Study the concepts of important of important or income and incom | cents using progres | ug and run simple Java | programs. |
| and confection (in this | Offing of mooles | WESTER # USE IN | |
| • Discuss the String Handli Module – 1 | ing examples:41 | and exception handlin | g mechanism. |
| Module – 1 | ing examples with (| Object Oriented concep | ts. |
| | | | Teaching |
| An Overview of Java: Object-Orient Second Short Program, Two Contro | ed Programmina A | Eine Ci - | Hours |
| Second Short Program, Two Contro Issues, The Java Class Libraries D | l Statements Heins | First Simple Program | A 8 Hours |
| Issues, The Java Class Libraries D | oto T | Blocks of Code, Lexi | cal |
| Strongly Typed Language, The Prin Characters, Booleans, A Closer Look | nitive Types, variable | cs, and Arrays: Java Is | s a |
| Characters, Booleans, A Closer Look Casting, Automatic Type Promotion | at Literals Variab | les Transfer Count Typ | es, |
| Casting, Automatic Type Promotio About Strings | n in Expressions | les, Type Conversion a | nd |
| About Strings | in in Expressions, | Arrays, A Few Wor | ds |
| | | | |
| Text book 1: Ch 2, Ch 3 | | | |
| Text book 1: Ch 2, Ch 3 Module – 2 | - 14 | U) | |
| Module – 2 Operators: Arithmetic Operators, Ti | ne Bitwise Operato | U | |
| Module – 2 Operators: Arithmetic Operators, The Ass Boolean Logical Operators, The Ass | ne Bitwise Operator | rs, Relational Operator | rs, 8 Hours |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Control | rol Statements, I | rs, Relational Operator | rs, 8 Hours |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Confideration Statements, Jump Statement | rol Statements, I | rs, Relational Operator | rs, 8 Hours |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Confiteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 | rol Statements, I | rs, Relational Operator | rs, 8 Hours |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Confiteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 | rol Statements: Jav s. | rs, Relational Operator The ? Operator, Operator's Selection Statement | rs, 8 Hours or its, |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame | rol Statements: Jav | rs, Relational Operator The ? Operator, Operat a's Selection Statement | rs, 8 Hours or is, |
| Module – 2 Operators: Arithmetic Operators, The Ass Boolean Logical Operators, The Ass Precedence, Using Parentheses, Contiteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables Introducing N | rol Statements: Jav s. | rs, Relational Operator The ? Operator, Operat a's Selection Statement bjects, Assigning Objects, | rs, 8 Hours or ss, ct 8 Hours |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Marbage Collection. The finalize() | entrals, Declaring Offerhods, Constructed | rs, Relational Operator The ? Operator, Operat a's Selection Statement bjects, Assigning Objects, The this Keywork | rs, 8 Hours or is, ct 8 Hours d, |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Marbage Collection, The finalize() Methods and Classes: Overloading Methods and Classes: Overloading Methods | ntals, Declaring Olethods, Constructed Method, A Stack (Methods, University of the Construction of the Con | rs, Relational Operator The ? Operator, Operat a's Selection Statement bjects, Assigning Objects, The this Keywork Class, A Closer Look | rs, 8 Hours or is, at 8 Hours |
| Module – 2 Operators: Arithmetic Operators, The Ass Boolean Logical Operators, The Ass Precedence, Using Parentheses, Confliteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Market Garbage Collection, The finalize() Methods and Classes: Overloading Include Closer Look at Argument Passing | ntals, Declaring Offethods, Constructed Methods, Using Offethods, Using Of | rs, Relational Operator The ? Operator, Operator a's Selection Statement bjects, Assigning Objectors, The this Keywork Class, A Closer Look a bjects as Parameters, | rs, 8 Hours or ss, standard at A |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Market Garbage Collection, The finalize() Methods and Classes: Overloading Included Closer Look at Argument Passing, Access Control, Understanding states. | ignificant Operator, crol Statements: Jav s. Intals, Declaring Offethods, Constructor Method, A Stack (Methods, Using Offethods, Using Offeth | rs, Relational Operator The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, The this Keywork Class, A Closer Look Objects as Parameters, Recursion, Introducin | rs, 8 Hours or is, 8 Hours ct d, at A g |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Market Collection, The finalize() Methods and Classes: Overloading I Closer Look at Argument Passing, Access Control, Understanding stallnheritance: Inheritance, Using superiors | ntals, Declaring Offethods, Constructed Method, A Stack Offethods, Using O | rs, Relational Operator, The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, The this Keywork Class, A Closer Look a Objects as Parameters, Recursion, Introducin Inal, Arrays Revisited | rs, 8 Hours or ss, at A g di, |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Marbage Collection, The finalize() Methods and Classes: Overloading I Closer Look at Argument Passing, Access Control, Understanding statisheritance: Inheritance, Using supe Constructors Are Called, Method Over | ntals, Declaring Offethods, Constructed Methods, Using Offethods, Using Of | rs, Relational Operator The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, The this Keywork Class, A Closer Look bjects as Parameters, Recursion, Introducin inal, Arrays Revisited idevel Hierarchy, Whe | rs, 8 Hours or ss, 8 Hours dt, 8 Hours dt, at A g dt, |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Market Garbage Collection, The finalize() Methods and Classes: Overloading I Closer Look at Argument Passing, Access Control, Understanding stathheritance: Inheritance, Using supe Constructors Are Called, Method Over Abstract Classes, Using final with Inheritance: Inheritance in Inheritance in Inheritance in Inheritance in Inheritance Inheritance, Using Supe Constructors Are Called, Method Over Abstract Classes, Using final with Inheritance in Inheritance in Inheritance in Inheritance Inheritan | ignification of the control of the control of the construction of the construction of the control of the contro | rs, Relational Operator The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, The this Keywork Class, A Closer Look bjects as Parameters, Recursion, Introducin inal, Arrays Revisited idevel Hierarchy, Whe | rs, 8 Hours or ss, 8 Hours dt, 8 Hours dt, at A g dt, |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Methods and Classes: Overloading Methods and Classes: Overloading I Closer Look at Argument Passing, Access Control, Understanding stallnheritance: Inheritance, Using supe Constructors Are Called, Method Over Abstract Classes, Using final with Inh Text book 1: Ch 6, Ch 7.1-7.9, Ch 8. | ignification of the control of the control of the construction of the construction of the control of the contro | rs, Relational Operator The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, The this Keywork Class, A Closer Look bjects as Parameters, Recursion, Introducin inal, Arrays Revisited idevel Hierarchy, Whe | rs, 8 Hours or ss, 8 Hours dt, 8 Hours dt, at A g dt, |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Marbage Collection, The finalize() Methods and Classes: Overloading Statement Passing, Access Control, Understanding statement Inheritance: Inheritance, Using super Constructors Are Called, Method Over Abstract Classes, Using final with Inher Text book 1: Ch 6, Ch 7.1-7.9, Ch 8. Module – 4 | interest Operator, and Statements: Javes. Intals, Declaring Offethods, Constructed Methods, A Stack of Methods, Using Offethods, Using Offeturning Objects, atic, Introducing for, Creating a Multiperriding, Dynamic Peritance, The Objects, and Constructions. | bjects, Assigning Objects, Assigning Objects, Assigning Objects, Acloser Look objects as Parameters, Recursion, Introducing Interval Hierarchy, Whe Method Dispatch, Using the Class. | rs, 8 Hours or is, 8 Hours d, at A g d, n g g |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Marbage Collection, The finalize() Methods and Classes: Overloading I Closer Look at Argument Passing, Access Control, Understanding statisheritance: Inheritance, Using supe Constructors Are Called, Method Over Abstract Classes, Using final with Inh Text book 1: Ch 6, Ch 7.1-7.9, Ch 8. Module – 4 Packages and Interfaces: Packages | ntals, Declaring Offethods, Constructed Methods, Using Offethods, Using Of | rs, Relational Operator, The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, The this Keywork Class, A Closer Look a bjects as Parameters, Recursion, Introducin Inal, Arrays Revisited Elevel Hierarchy, Whe Method Dispatch, Using Class. | rs, 8 Hours or is, at A g i, n g |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Marbage Collection, The finalize() Methods and Classes: Overloading I Closer Look at Argument Passing, Access Control, Understanding stathheritance: Inheritance, Using super Constructors Are Called, Method Over Abstract Classes, Using final with Inh Text book 1: Ch 6, Ch 7.1-7.9, Ch 8. Module – 4 Packages and Interfaces: Packages, Interfaces, Exception Handling: Exception Fig. 19 | intals, Declaring Offethods, Constructed Methods, Constructed Methods, Using Offethods, Using Offethods, Using Offethods, Introducing for, Creating a Multiperitation, The Objects, Access Protection | rs, Relational Operator, The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, The this Keywork Class, A Closer Look bjects as Parameters, Recursion, Introducin Inal, Arrays Revisited tilevel Hierarchy, Whe Method Dispatch, Using Class. | rs, 8 Hours or is, 8 Hours ct 8 Hours d, at A g i, n g g s, 8 Hours |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Methods and Classes: Overloading Methods and Classes Control, Understanding standheritance: Inheritance, Using super Constructors Are Called, Method Over Abstract Classes, Using final with Inheritance Classes, Using final with Inheritance and Interfaces: Packages, Interfaces, Exception Handling: Exceptions, Uncaught Exceptions Using | interest Operator, and Statements: Javes. Intals, Declaring Offethods, Constructed Methods, Constructed Methods, Using Offethods, Using Offethods, Using Offethods, Introducing for, Creating a Multiperriding, Dynamic Peritance, The Objects, Construction, Constructi | rs, Relational Operator The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, The this Keywork Class, A Closer Look bjects as Parameters, Recursion, Introducin Inal, Arrays Revisited Tilevel Hierarchy, Whe Method Dispatch, Usin Class. The Importing Packages Undamentals, Exception | rs, 8 Hours or is, 8 Hours ct 8 Hours d, at A g d, n g s, 8 Hours |
| Module – 2 Operators: Arithmetic Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Marbage Collection, The finalize() Methods and Classes: Overloading I Closer Look at Argument Passing, Access Control, Understanding statinheritance: Inheritance, Using supe Constructors Are Called, Method Over Abstract Classes, Using final with Inh Text book 1: Ch 6, Ch 7.1-7.9, Ch 8. Module – 4 Packages and Interfaces: Packages, Interfaces, Exception Handling: Exceptions, Uncaught Exceptions, Using Nested try Statements, throw there | ntals, Declaring Offethods, Constructed Methods, Constructed Methods, Using Offethods, Introducing for the Company of the Construction of the Co | rs, Relational Operator The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, Assigning Objects, Assigning Objects, Acloser Look Objects as Parameters, Recursion, Introducin Inal, Arrays Revisited Citevel Hierarchy, Whee Method Dispatch, Usin Ott Class. Importing Packages Undamentals, Exception Multiple catch Clauses | rs, 8 Hours or is, 8 Hours d, at A g d, n g d, n g d, n, n g d, n, n, g d, n, |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Marbage Collection, The finalize() Methods and Classes: Overloading I Closer Look at Argument Passing, Access Control, Understanding statisheritance: Inheritance, Using supe Constructors Are Called, Method Over Abstract Classes, Using final with Inheritance Classes, Using final with Inheritance Inheritance: Packages, Interfaces, Exception Handling: Exceptions, Uncaught Exceptions, Using Nested try Statements, throw, three Creating Your Own Exception Statements of the Assertation of the Constructors of the Constructors, Using Statements, throw, three Creating Your Own Exception Statements of the Constructors of the C | ntals, Declaring Offethods, Constructed Methods, Constructed Methods, Using Offethods, Introducing for the Company of the Construction of the Co | rs, Relational Operator The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, Assigning Objects, Assigning Objects, Acloser Look Objects as Parameters, Recursion, Introducin Inal, Arrays Revisited Citevel Hierarchy, Whee Method Dispatch, Usin Ott Class. Importing Packages Undamentals, Exception Multiple catch Clauses | rs, 8 Hours or is, 8 Hours d, at A g i, n g is, 8 Hours |
| Module – 2 Operators: Arithmetic Operators, The Boolean Logical Operators, The Ass Precedence, Using Parentheses, Conflicteration Statements, Jump Statement Text book 1: Ch 4, Ch 5 Module – 3 Introducing Classes: Class Fundame Reference Variables, Introducing Methods and Classes: Overloading Methods and Classes Control, Understanding standheritance: Inheritance, Using super Constructors Are Called, Method Over Abstract Classes, Using final with Inheritance Classes, Using final with Inheritance and Interfaces: Packages, Interfaces, Exception Handling: Exceptions, Uncaught Exceptions Using | ntals, Declaring Offethods, Constructed Methods, Constructed Methods, Using Offethods, Introducing for the Company of the Construction of the Co | rs, Relational Operator The ? Operator, Operator a's Selection Statement bjects, Assigning Objects, Assigning Objects, Assigning Objects, Acloser Look Objects as Parameters, Recursion, Introducin Inal, Arrays Revisited Citevel Hierarchy, Whee Method Dispatch, Usin Ott Class. Importing Packages Undamentals, Exception Multiple catch Clauses | rs, 8 Hours or is, 8 Hours d, at A g i, n g is, 8 Hours |

Module - 5

Enumerations, Type Wrappers, I/O, Applets, and Other Topics: I/O Basics, Reading Console Input, Writing Console Output, The PrintWriter Class, Reading and Writing Files, Applet Fundamentals, The transient and volatile Modifiers, Using instanceof, strictfp, Native Methods, Using assert, Static Import, Invoking Overloaded Constructors Through this(), String Handling: The String Constructors, String Length, Special String Operations, Character Extraction, String Comparison, Searching Strings, Modifying a String, Data Conversion Using valueOf(), Changing the Case of Characters Within a String, Additional String Methods, StringBuffer, StringBuilder.

8 Hours

Text book 1: Ch 12.1,12.2, Ch 13, Ch 15

Course outcomes: The students should be able to:

- Explain the object-oriented concepts and JAVA.
- Develop computer programs to solve real world problems in Java.
- Develop simple GUI interfaces for a computer program to interact with users

Question paper pattern:

The question paper will have TEN questions.

There will be TWO questions from each module.

Each question will have questions covering all the topics under a module.

The students will have to answer FIVE full questions, selecting ONE full question from each module.

Text Books:

1. Herbert Schildt, Java The Complete Reference, 7th Edition, Tata McGraw Hill, 2007. (Chapters 2, 3, 4, 5, 6,7, 8, 9,10, 12,13,15)

Reference Books:

- Mahesh Bhave and Sunil Patekar, "Programming with Java", First Edition, Pearson Education, 2008, ISBN:9788131720806.
- Rajkumar Buyya, S Thamarasi selvi, xingchen chu, Object oriented Programming with java, Tata McGraw Hill education private limited.
- 3. E Balagurusamy, Programming with Java A primer, Tata McGraw Hill companies.
- 4. Anita Seth and B L Juneja, JAVA One step Ahead, Oxford University Press, 2017.

H.O.D.

Dept. Of Information Science & Engineering Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225