



Program - T.Y.B.B.A (Computer Application)

Semester - V

Course – Programming in Java (501) 2013 Pattern

Name of the Teacher: - Prof. Pandit Supriya P.

Course Outcome (CO):

Upon successful completion of this course, students will be able to

- 1) CO1: Understand programming language concepts, particularly Java and object-oriented concepts. Create and use Classes and objects from predefined class libraries.
- 2) CO2: Write, debug, and document well-structured Java applications.
- 3) CO3: Understand and use the behavior of primitive data types, object references and arrays.
- 4) CO4: Apply decision and iteration control structures to implement algorithms.
- 5) CO5: Implement interfaces, abstract classes & methods, inheritance, and polymorphism as programming techniques, packages, apply exceptions handling, applet, swing etc.

Course T.Y.B.B.A(CA)	Course Specific Outcome CSO	Methodology	Reference book	No. of Lectures
Introduction to Java: Features of java, OOPs Concepts, Difference between C++ and JAVA, Structure of java program, Data types ,Variables ,Operators , Keywords ,Naming Convention, Type Casting, Array Creating an array Types of Array - One Dimensional arrays - Two Dimensional array, String – Arrays.	Student will understand java Environment, JVM, Object Oriented Concepts, Write and debug the java program and will get the Knowledge of data types, statements, arrays and strings of java. Implements the above.	Lecture and Demonstrative	Programming with JAVA - E Balgurusamy	8
Classes and Objects: Creating Classes and objects, Memory allocation for objects, Constructor, Implementation of Inheritance Simple, Multilevel, Interfaces, Abstract classes and methods, Implementation of	Students will understand and implements classes, objects, Implements constructor, inheritance, interfaces, Garbage Collection, abstract classes & methods, access modifiers, packages and wrapper classes	Lecture and Demonstrative	The Complete Reference – JAVA Herbert Schildt	11



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Polymorphism, Method Overloading, Method Overriding, Nested and Inner classes, Modifiers and Access Control, Packages Concept				
Collection: Collection Framework. Interfaces, Collection, List, Set etc. Classes-Linked List, Array List. Map Interface, Map Classes	Understand and use the Collection Framework, Implements List, Queue, Set, Array list, Interfaces, Vector, Linked List, Hash Set, Map Interface and Map Classes etc.	Lecture and Demonstrative	Programming with JAVA - E Balgurusamy, The Complete Reference – JAVA Herbert Schildt	6
File and Exception Handling Exception types, Using try catch and multiple catch Nested try, throw , throws and finally, Creating user defined Exceptions, Stream ByteStream Classes CharacterStream Classes 4.5 File IO basics 4.6 File operations	Student will understand and implements exceptions using Try catch and Nested Try, throw, Throws and Finally, File Handling and Stream Concepts. Creates file Operations i.e. Create, Read and Write.	Demonstrative	Programming with JAVA - E Balgurusamy, The Complete Reference – JAVA Herbert Schildt	8
Applet, AWT and Swing Programming Types applet, Applet Life cycle, Components & container used in AWT, Layout managers, Listeners and Adapter classes, Event Delegation model, Swing	Understands and use applet, types of applet, AWT and Life Cycle, Applet classes, AWT Controls and Layout Manager, Event Handling, Listeners, Adapter Classes, Swing and Menu Handling.	Lecture and Demonstrative	Programming with JAVA - E Balgurusamy, The Complete Reference – JAVA Herbert Schildt	12

Reference Books:

1. Programming with JAVA - E Balgurusamy
2. The Complete Reference – JAVA Herbert Schildt



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Course Name: Web Technology

Course code:502

Name: Mrs. Deshmukh N.S.

Course Outcome:

CO1. The students will be able to develop a dynamic Website.

CO2. The students will connect database with PHP.

CO3. Student will create different purpose Websites.

CO4. Student will create attractive website using concept of CSS.

CO5. Student will understand to create different purpose websites.

Course 502 T.Y.BBA(CA)	Course Specific Outcome CSO	Methodology	Reference Book	No. of Lecture
Web Essentials 1.1 Clients- Servers and Communication 1.2 Internet-Basic ,Internet Protocols(HTTP,FTP,IP) 1.3 World Wide Web(WWW) 1.4 HTTP request message, HTTP response message	CSO1. Understand Client Server Model and it's Working . CSO2. HTTP Protocol and it's working . CSO3. Introduction of basic definition like Web Browser, Web Server etc.	Chalk and Talk	Complete HTML- Thomas Powell	03
Markup Languages 2.1 Introduction to HTML 2.2 Basic HTML Structure 2.3 Common HTML Tags 2.4 Physical and Logical HTML 2.5 Types of Images, client side and server-side Image mapping 2.6 List, Table, Frames 2.7 Embedding Audio, Video 2.8 HTML form and form elements 2.9 Introduction to HTML Front Page 2.10 CSS with HTML	CSO1. To understand basic structure of HTML and tags. CSO2. To understand CSS. CSO3. To understand how create small website .	Demonstration	Complete HTML- Thomas Powell	08
JAVA Script 3.1 Introduction to Java Script 3.2 Identifier & operator, control structure, functions 3.3 Document object model(DOM), 3.4 DOM Objects(window, navigator,	CSO1. Understand basic structure and control structure. CSO2. know DOM objects. CSO3. Event handling in JavaScript.	Demonstration	HTML and JavaScript – Ivan Bayross Balena	6



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history, location) 3.5 Predefined functions, math & string functions 3.6 Array in Java scripts 3.7 Event handling in Java script				
Introduction to PHP 4.1 Introduction to PHP 4.2 What does PHP do? 4.3 Lexical structure 4.4 Language basics 4.4.1 Variable, constant, keywords, Data Types 4.4.2 Control Structures 4.4.3 Variables variable 4.4.4 Type casting, Type Juggling 4.4.5 \$_GET, \$_POST, \$_REQUEST Variables	CS01. Learn about Lexical structure of PHP. CS02. Data types and control structure. CS03. To understand type casting and \$_GET, \$_POST, \$_REQUEST variables..	Demonstration	Programming PHP - Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication	10
Function and String in PHP 5.1 Defining and calling a function 5.2 Default parameters 5.3 Variable parameters, Missing parameters 5.4 Variable function, Anonymous function 5.5 Types of strings in PHP 5.6 Printing functions 5.7 Encoding and escaping 5.8 Comparing strings 5.9 Manipulating and searching strings	CS01. Function declaration, definition and calling. CS02. Anonymous function and small example. CS03. Learn Regular Expression and built in functions.	Demonstration	Programming PHP - Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication	10
Arrays in PHP 6.1 Indexed Vs Associative arrays 6.2 Identifying elements of an array 6.3 Storing data in arrays 6.4 Multidimensional arrays 6.5 Extracting multiple values 6.6 Converting between arrays and variables 6.7 Traversing arrays 6.8 Sorting 6.9 Action on entire arrays	CS01. Types of array and basic concepts.. CS02. know all built in functions of array. CS03. Understand traversing of an array.	Demonstration	Programming PHP - Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication	07

Reference Books :

1. Complete HTML- Thomas Powell
2. HTML and JavaScript – Ivan Bayross
3. Programming PHP - Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication
4. Beginning PHP 5 - Wrox publication

Course Name: Dot Net Programming



Class: T.Y.BBA(CA) Sem-V

Course code:503

Course Outcomes

CO1. The students will understand .NET Framework and describe some of the major enhancements to the new version of Visual Basic.

CO2. Describe the basic structure of a Visual Basic.NET project and use main features of the integrated development environment (IDE)

CO3. The student will use VB.Net to build console and Windows applications using structured and object-based programming techniques.

CO4. Translate general requirements into data-related solutions using database concepts

CO5. Create applications that use ADO. NET.

CO6. Use of crystal report in applications.

Course 533 T.Y.BBA(CA)	Course Specific Outcome CSO	Methodology	Reference Book	No. of Lecture
1.Introduction to .NET Framework 1.1 IDE 1.2 Event Driven Programming 1.3 . NET Framework 1.4 Architecture of .Net 1.5 Execution Process of .Net Application 1.6 Features of .Net 1.7 Advantages of .Net 1.8 Develop simple .Net Application	Understand the .NET framework and architecture of .NET. Knowledge of Event driven Programming and execution process of .net and application.	Chalk and Talk	The Complete Reference - Visual Basic .NET – Jeffrey R. Shapiro	8
2.Introduction to VB.Net 2.1 Basics of VB.Net 2.2 Control Structures 2.3 Exit Statements 2.4 Build Console Applications 2.5 Build Windows	Effectively design, formulate and build windows applications with full functionality and a graphical user interface using the language Visual Basic on .NET platform.	Demonstration	The Complete Reference - Visual Basic .NET – Jeffrey R. Shapiro	10
3. Object Oriented Programming in VB .Net 3.1 Class and Object 3.2 Properties, methods and events. 3.3 Constructors and Destructors 3.4 Method overloading 3.5	To get knowledge of concept of object oriented programming language. Develop interactive applications using the object-oriented principals,	Demonstration	Programming Microsoft Visual Basic.NET – Francesco Balena	6



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Inheritance. 3.6 Access modifiers: Public, Private, Protected, Friend. 3.7 Method Overriding. 3.8 Interfaces. 3.9 Polymorphism. 3.10 Exception Handling	encapsulation, inheritance and to some extents polymorphism.			
4.Architecture Of ADO.Net 4.1 Database : Connection, Command, DataAdapter ,DataSet, DataReader, DataTable 4.2 Connection to database with Server Explorer 4.3 Multiple Table Connection 4.4 Data binding with controls like TextBox, ListBox, DataGrid. 4.5 Navigating data source 4.6 DataGridView, DataFormwizard, Data validation	Effectively develop the application in database using ADO.NET Get knowledge of connection to database with server explorer.	Demonstration	Programming Microsoft Visual Basic.NET – Francesco Balena	12
5.Crystal Report 5.1 Connection to Database, Table, Queries, Building Report, Modifying Report, Formatting Fields and Object 5.2 Header, Footer, Working with formula fields, Parameter fields, Special fields 5.3 Working with Multiple Tables.	Report creation using crystal report ActiveX control.	Demonstration	· Crystal Report – The Complete Reference :- Tata McGraw Hill	9

Reference Books: 1. Programming Microsoft Visual Basic.NET – Francesco Balena
2. The Complete Reference -Visual Basic .NET – Jeffrey R. Shapiro
3· Murach's VB.NET database programming with ADO.NET -Anne Prince and Doug Lowe
4· The Visual Basic.NET COACH
5· Visual Basic .NET 2003 in 21 Days. – Steven Holzner, SAMS Publications.
6· Mastering Crystal Report - BPB Publication
7· Crystal Report – The Complete Reference: - Tata McGraw Hill

Mrs. Rajnigandha Y. Ingole

M.Sc.(Computer Science) B.Ed.

MamasahebMohol College Pune-38

Name of the Teacher: Sulekha Magar



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Class: BBA[CA] –III(Object Oriented Software Engineering) Pattern : 2013 (Semester)

Course Code - 504

Course Outcomes: Cos: Object Oriented Software Engineering (Sem- V)

CO1 : 1.Students are able to draw different diagrams that are used in the Project Development.

CO 2 : 2. It Introduces the Object Oriented Concepts, Overview of Model and Modeling etc.

CO 3 : 3. At the end of the subject students will be able to present the project using different Techniques.

Course : CS501 BBA[CA]-III(Sem-5)	Course Specific Outcome(CSO)	Methodology	Reference Book	No of Lectures
Object oriented concepts, Modeling and UML.	1.1.Students will get the basic knowledge of Object oriented concepts that are used for developing the software.	Lecture	The Unified Modeling Language User Guide by Grady Booch, James Raumbaugh, Ivar Jacobson	8
Basic and Advanced Structural Modeling.	2.1. In Depth knowledge of Advanced Structural Modeling i.e. Advanced Classes, Advanced Relationships, Object Diagrams etc.	Lecture	The Unified Modeling Language User Guide by Grady Booch, James Raumbaugh, Ivar Jacobson.	12
Basic Behavioral and Architectural Modeling.	3.1. At the end of this chapter students are able to show or understand the relations that are used for the development of the project.	Constructive	The Unified Modeling Language User Guide by Grady Booch, James Raumbaugh, Ivar Jacobson	12



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Object Oriented Analysis.	4.1.Once students get the knowledge of the structure and the relations of the data they move forward to place all the data in the iterative manner.	Constructive	Software Engineering by Pressman.	8
Object Oriented Design.	5.1. At this stage students are able to design the Project by using different methods.	Constructive	Software Engineering by Pressman.	4

Types of Evaluation: Diagnostic evaluation Test to identify Slow Learner and Fast Learner.

Formative and Summative Evaluation

- 1) Formative Evaluation : Knowledge, Understanding, Application, Skills
- 2) Summative Evaluation: Term End Examination and University Examination.

Development of E-content/E-Module and made available on Google and Website

References:

1. The Unified Modeling Language User Guide by Grady Booch, James Raumbaugh, Ivar Jacobson.
2. Software Engineering by Pressman



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DEPARTMENT OF COMPUTER SCIENCE

Name of the Course : Advanced Web Technologies

Course Code : 601

Name of the Teacher : Prof. Deshmukh N.S.

Course Outcome

CO1. The students will be able to develop a dynamic Website.

CO2. The students will connect database with PHP.

CO3. Student will create different purpose Websites.

CO4. To get knowledge of connectivity of Database with PHP.

CO5. To know about XML and Ajax.

Course : CS-601 BBA[CA]-III(Sem-6)	Course Specific Outcome(CSO)	Methodolog y	Reference Books	No of Lectures
Introduction to Object Oriented Programming in PHP 1.1 Classes 1.2 Objects 1.3 Introspection 1.4 Serialization 1.5 Inheritance 1.6 Interfaces 1.7 Encapsulation	CSO1. To understand Classes, Object concepts. CSO2. To know about Introspection, Serialization. CSO3. Inheritance, Interfaces	Lecture	Programming PHP - Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication	06
Web Techniques 2.1 Web Variables 2.2 Server information 2.3 Self Processing forms 2.4 Setting response headers 2.5 Maintaining state (Cookies and Sessions)	CSO1. To understand Web Variables CSO2. Introduction to self-Processing forms. CSO3. To understand how to Maintaining state (Cookies and Sessions).	Lecture	Programming PHP - Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication	08
Databases 3.1 Using PHP to access a databases 3.2 Mysql Database functions 3.3 Relational databases and SQL 3.4 PEAR DB basics 3.5 Advanced database techniques 3.6 Sample application	CSO1. Using PHP to access a databases. CSO2. know Mysql Database functions, Relational databases and SQL CSO3. PEAR DB basics, Advanced database techniques, create sample application	Use of ICT	Beginning PHP 5 - Wrox publication	08



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XML 4.1 What is XML? 4.2 XML document Structure 4.3 PHP and XML 4.4 XML parser 4.5 The document object model 4.6 The simple XML extension 4.7 Changing a value with simple XML	CSO1. Learn about XML, XML document Structure CSO2. XML Parser. CSO3. Changing a value with simple XML.	Use of ICT	Programming PHP - Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication Beginning PHP 5 - Wrox publication	08
Web services 5.1 Web services concepts 5.2 WSDL, UDDI 5.3 Introduction to SOAP XML-RPC 5.4 Creating web services 5.5 Calling web services	CSO1. To understand the web services CSO2. Introduction to SOAP,XML-RPC. CSO3. Learn how to calling Web Services.	Use of ICT	Programming PHP - Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication Beginning PHP 5 - Wrox publication	08
Ajax 6.1 Understanding java scripts for AJAX 6.2 AJAX web application model 6.3 AJAX – PHP framework 6.4 Performing AJAX validation 6.5 Handling XML data using PHP and AJAX 6.6 Connecting database using PHP and AJAX	CSO1. Understanding java scripts for AJAX, AJAX web application model CSO2. Know AJAX –PHP framework. CSO3. Performing AJAX validation Handling XML data using PHP and AJAX CSO4: Connecting database using PHP and AJAX	Constructive	PHP web services - Wrox publication	06

Reference Books:

1. Programming PHP - Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication
2. Beginning PHP 5 - Wrox publication
3. PHP web services - Wrox publication



Name of the Course : Advanced Java

Course Code : 602

Name of the Teacher : Prof. Gauri Marne

Course Outcome

- 1) CO1: Demonstrate approaches for performance and effective coding
- 2) CO2: Develop Java client/server applications
- 3) CO3: Write multi-threaded Java applications
- 4) CO4: Update and retrieve the data from the databases using SQL
- 5) CO5: Develop server side programs in the form of Servlets and JSP

Course : CS-602 BBA[CA]-III(Sem-6)	Course Specific Outcome(CSO)	Methodolog y	Reference Books	No of Lectures
JDBC 1.1 The design of JDBC 1.2 Basic JDBC program Concept 1.3 Drivers 1.4 Architecture of JDBC 1.5 Making the Connection, Statement , ResultSet , PreparedStatement, CollableStatement 1.6 Executing SQL commands 1.7 Executing queries	CSO1: Understand basic design of JDBC drivers CSO2: Execute SQL statements CSO3: Analyze Database	Lecture	The Complete Reference – JAVA Herbert Schildt	10
Networking 2.1 The java.net package 2.2 Connection oriented transmission – Stream Socket Class 2.3 Creating a Socket to a remote host on a port (creating TCP client and server) 2.4 Simple Socket Program Example.	CSO1: Understand java.net package CSO2: Implement TCP/IP and Datagram protocol.	Lecture	The Complete Reference – JAVA Herbert Schildt Core java –II By Cay S. Horstmann and Gary Cornell	7
Servlet and JSP 3.1 Introduction 3.2 How It differ from CGI 3.3 Types of servlet 3.4 Life cycle of servlet 3.5 Execution process of Servlet Application 3.6 Session Tracking 3.7 Cookie class 3.8 Servlet- Jdbc 10 1,2 JSP 3.9	CSO1: Implement life cycle of servlet CSO2: Dealing with cookies, Track session CSO3: Write Server side code, Add dynamic contents in web	Use of ICT	The Complete Reference – JAVA Herbert Schildt Core java –II By Cay S. Horstmann and Gary Cornell	10



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Introduction to JSP 3.10 Components of JSP Directives , Tags, Scripting Elements 3.11 Execution process of JSP Application 3.12 Building a simple application using JSP 3.13 JSP with Database	page. CSO4: Handle different tags and directive, Create simple web application			
Multithreading 4.1 Introduction to Thread 4.2 Life cycle of thread 4.3 Thread Creation - By using Thread Class - By Using Runnable interface 4.4 Priorities and Synchronization 4.5 Inter thread communication 4.6 Implementation of Thread with Applet	CSO1: Create threads CSO2: Synchronize threads in execution CSO3: Implement inter thread communication	Use of ICT	The Complete Reference – JAVA Herbert Schildt Core java –II By Cay S. Horstmann and Gary Cornell	10
Java Beans and RMI 5.1 What is bean 5.2 Advantages 5.3 Using Bean Development kit(BDK) 5.4 Introduction to jar and manifest files 5.5 The java beans API Remote Method Invocation 5.6 Introduction to remote object RMI architecture 5.7 Stubs and skeleton 5.8 Registry 5.9 Setting up RMI 5.10 Using RMI with applet	CSO1: Understand distributed applications using RMI CSO2: Understand component- based Java software using JavaBeans	Use of ICT	The Complete Reference – JAVA Herbert Schildt Core java –II By Cay S. Horstmann and Gary Cornell	09

Reference Books:

1. The Complete Reference – JAVA Herbert Schildt
2. Core java –II By Cay S. Horstmann and Gary Cornell
3. Compete Reference J2EE – Jim Keogh



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DEPARTMENT OF COMPUTER SCIENCE

Name of the Teacher: Prof. Rajanigandha Ingole

Class: BBA[CA] –III(Recent Trends in IT) Pattern : 2013 (Semester VI)

Course Code - 603

Course Outcomes: Cos: Recent Trends in IT.

After course completion the students will have the following learning outcomes.

CO1: 1. To introduce upcoming trends in Information technology.

CO2: 2.To study Eco friendly software development.

CO3: 3.To provide the knowledge and skills required to understand recent developments in information technologies in order to provide a clear and global outlook on the evolution of products on the market.

Course : CS-603 BBA[CA]-III(Sem-6)	Course Specific Outcome(CSO)	Methodolog y	Reference Books	No of Lectures
Software Process and Project Metrics, Analysis Concepts And Principles.	1.1. Students will learn and able to analyze the software requirements	Lecture	Roger S. Pressman, Software Engineering , McGraw Hill(1997).	6
Distributed Databases.	2.1. Evaluate simple strategies for executing a distributed query to select the strategy that minimizes the amount of data transfer.	Lecture	Roger S. Pressman, Software Engineering , McGraw Hill(1997)	8
Data Warehouse.	3.1. The candidate will get knowledge of Data preprocessing and data quality,Modeling and design of data warehouses. 3.2. Ability to apply acquired knowledge for understanding data and select suitable methods for data analysis	Lecture	Jiawei Micheline Kamber, “Data Mining Concepts and Techniques”,Morgan Kauf Mann Publishers	8



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Network Security.	4.1. Define the terms vulnerability, threat and attack. 4.2. compare and contrast symmetric and asymmetric encryption systems and their vulnerability to attack, and explain the characteristics of hybrid systems	Lecture	William Stallings, "Network Security Essentials", Prentice-Hall	14
Computing and Informatics.	5.1. Analyze a problem or information needs (of users or organizations) and identify and define the data needed to support decision making to resolve the problem or need.	Lecture	William Stallings, "Network Security Essentials", Prentice-Hall	8

Types of Evaluation: Diagnostic evaluation Test to identify Slow Learner and Fast Learner.

Formative and Summative Evaluation

- 1) Formative Evaluation : Knowledge, Understanding, Application, Skills
- 2) Summative Evaluation: Term End Examination and University Examination.

Development of E-content/E-Module and made available on Google and Website

References:

1. Roger S. Pressman, Software Engineering , McGraw Hill(1997).
2. Database System Concepts by Korth, Silberschatz, Sudarshan - McGraw Hill.
3. Jiawei Micheline Kamber, "Data Mining Concepts and Techniques",Morgan Kauf Mann Publishers.
4. William Stallings, "Network Security Essentials", Prentice-Hall.



Name of the teacher: Prof.Harshada Bobade

Course Outcome: COs: **CA-604: Software Testing**

CO 1)To know various test processes and continuous quality improvement.

CO 2)To use of various test tools.

Course	Course Specific Outcome CSO	Methodology	Reference book	No. of Lectures
B.B.A (CA)(Sem-VI) CA-604				
Software Testing Introduction, Nature of errors, Testing principles & Testing fundamentals, Debugging	To understand testing principles & testing fundamentals. To apply software testing techniques in commercial environments	Lecture	Books 1,2	06
Approaches to Testing - I White Box Testing, Black Box Testing, Gray Box Testing, Unit Testing Integration- Top-down ,Bottom up Big Bang Sandwich .	To know the white-box and black-box testing. Implementation of testing by using examples.	Lecture	Books 1,2	10
Testing for Specialized Environments Testing GUI's, Testing of Client/Server Architectures, Testing Documentation and Help Facilities, Testing for Real	To understand how to use these in software testing process. To identify defects exist within the module.	Constructive	Book 1,2	12



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Software Testing Strategies Validation Testing, System Testing, verification, Performance Testing, Regression Testing, Agile testing, Acceptance testing ,Smoke Testing ,Load Testing, Introduction, Basic Metrics, Complexity Metrics:	<p>To discuss different types of testing.</p> <p>To identify how can we measure the quality of the software by using Metrics. Knowledge of how test cases are executed.</p> <p>.</p>	Demonstrative	Book 1,2	12
Specialized Testing & Testing Tools (Introduction) Test Case Design, Junit, Apache Jmeter, Winrunner Loadrunner, Rational Robot	<p>To study different types of testing tools. How to introduce automation on your project?</p> <p>Perfomance analysis for space requirement and speed using.</p>	Constructive	Books 1,2	06

REFERENCES:

1. Software Engineering – A Practitioners Approach, Roger S. Pressman, Tata McGraw Hill
2. Software Engineering for Students- A Programming Approach, Douglas Bell, Pearson Education.

Prof.Harshada S.Bobade