

Bachelor of Science (Computer Science) (Semester – 3 and Semester – 4)

Saurashtra University

Effective from June - 2017

B.Sc. (C.S.) (Semester – 3)

CA-301: NETWORKING & INTERNET ENVIRONMENT		
Objective: Through this subject student will learn about the fundamental of Networking and will learn in detail about Internet, HTML, CSS, Dream weaver tool, and JavaScript language.		
Unit No.	Topic	Details
1	Introduction to Internet	Computer Network, Type of Computer Network ,Network Topology,OSI Reference Model,TCP/IP Internet Terminology,ISP (Internet Service Provider) Intranet,VSAT (very small aperture terminal),URL, Portal, Domain Name Server
2	Application of Internet	World Wide Web (WWW),Search Engine, Remote Login, Telnet,FTP,Electronic Mail (Email),E-Commerce and E-Business,E-Governance
3	Basic of HTML & Advance HTML	Fundamental of HTML, Basic Tag and Attribute The Formatting Tags, The List Tags, Link Tag inserting special characters, adding images and Sound, lists types of lists, Table in HTML, Frame in HTML, Forms
4	Cascading Style Sheet	Introduction to CSS, Types of Style Sheets Class & ID Selector, CSS Font Properties CSS Text Properties, CSS Background Properties CSS List Properties, CSS Margin Properties CSS Comments
5	Macromedia Dream weaver	Getting Started With Dreamweaver MX Opening Dreamweaver MX, Different Views Program Layout, Change Workspace, Panels Managing Panels, The Insert Bar, Making a Page <ul style="list-style-type: none">• Web Pages and Their Relation to Each Other• Multiple Pages With Similar Style Page Properties, Text and Text Properties, Links, Link Properties, Creating a Link to Another Site Creating a Link to a Page in Your Site, Making an Image a Link, Linking to Other Media, Making Anchors Publishing, Managing Your Workspace Creating a New Site, Defining a New Site in Basic Mode Defining a New Site in Advanced Mode Uploading Your Files to the Web, Edit Sites Templates <ul style="list-style-type: none">• Creating a New Template• Uneditable & Editable Regions• Saving Your Template• Creating a New Page From a Template• Changes to a Template

6	Java Script	Introduction to JavaScript Variables <ul style="list-style-type: none">• JavaScript Operators• Conditional Statements• JavaScript Loops• JavaScript Break and Continue Statements• Dialog Boxes• JavaScript Arrays• JavaScript User Define Function• Built in Function
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Reference Books:

1. NETWORKING & INTERNET ENVIRONMENT by Bharat & Company.
2. Internet The Complete Reference –Young.
3. World Wide Web Design With Html -C Xavier.
4. Internet For Every One –Leon.
5. Practical Html 4.0 -Lee Philips.
6. MCSE Networking Essential Training Guides.
7. Mastering In FrontPage – BPB.

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CA-401: PROGRAMMING WITH JAVA		
Objective: Through this subject students will learn about core java concept with class, object, inheritance, packages, exception handling and threading, streams, applet and layout managers, event handling.		
Unit No.	Topic	Details
1	History, Introduction and Language Basics	<ul style="list-style-type: none">- History and Features of Java- Java Editions- JDK, JVM and JRE- JDK Tools- Compiling and Executing basic Java Program- Java IDE (Netbeans and Eclipse)- Data Type (Integer, Float, Character, Boolean)- Java Tokens (Keyword, Literal, Identifier, Whitespace, Separators, Comments, Operators)- Operators (Arithmetic, Relational, Boolean Logical, Bitwise Logical, Assignment, Unnary, Shift, Special operators)- Type Casting- Decision Statements (if, switch)- Looping Statements (for, while, do..while)- Jumping Statements (break, continue, return)- Array (One Dim., Rectangular, Jagged)- Command Line Argument Array
2	Classes and Objects	<ul style="list-style-type: none">- OOP Concepts (Class, Object, Encapsulation, Inheritance, Polymorphism)- Creating and using Class with members- Constructor- finalize() method- Static and Non-Static Members- Overloading (Constructor & Method)- VarArgs
3	Inheritance	<ul style="list-style-type: none">- Universal Class (Object Class)- Access Specifiers (public, private, protected, default, private, protected)- Doing Inheritance- Constructors in inheritance- Method Overriding- Interface- Nested and Inner Class- Abstract and Final Class
4	Java Packages	<ul style="list-style-type: none">- Normal import and Static Import- Introduction to Java API Packages and imp. Classes

		<ul style="list-style-type: none"> o java.lang o java.util o java.io o java.net o java.awt o java.awt.event o java.applet o java.swing - java.lang Package Classes (Math, Wrapper Classes, String, StringBuffer) - java.util Package Classes (Random, Date, GregorianCalendar, Vector, HashTable, StringTokenizer) - Creating and Using UserDefined package and sub-package
5	Exception Handling and Threading	<ul style="list-style-type: none"> - Introduction to exception handling - try, catch, finally, throw, throws - Creating user defined Exception class - Thread and its Life Cycle (Thread States) - Thread Class and its methods - Synchronization in Multiple Threads (Multithreading)
6	Streams (Input and Output)	<ul style="list-style-type: none"> - Stream and its types (Input, Output, Character, Byte) - File and RandomAccessFile Class - Reading and Writing through Character Stream Classes (FileReader, BufferedReader, FileWriter, BufferedWriter) - Reading and Writing through Byte Stream Classes (InputStream, FileInputStream, BufferedInputStream, DataInputStream, OutputStream, FileOutputStream, BufferedOutputStream, DataOutputStream) - StreamTokenizer Class
7	Applets	<ul style="list-style-type: none"> - Introduction to Applet - Applet Life Cycle - Implement & Executing Applet with Parameters - Graphics class
8	Layout Managers	<ul style="list-style-type: none"> - FlowLayout - BorderLayout - CardLayout - GridLayout - GridBagLayout with GridBagConstraints - Intro. to BoxLayout, SprigLayout, GroupLayout - Using NO LAYOUT Manager
9	Event Handling	<ul style="list-style-type: none"> - Introduction to Event Handling - Event Delegation Model - Event Packages <ul style="list-style-type: none"> o AWT Event Package o Swing Event Package - Event Classes (ActionEvent, ItemEvent, FocusEvent, MouseEvent, MouseWheelEvent, TextEvent, WindowEvent, etc.)

		<ul style="list-style-type: none">- Listener Interfaces (ActionListener, ItemListener, FocusListener, KeyListener, MouseListener, MouseMotionListener, TextListener, WindowListener, etc.)- Adaptor Classes (FocusAdaptor, KeyAdaptor, MouseAdaptor, MouseMotionAdaptor)
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Reference Books:

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| <ol style="list-style-type: none">1. Programming with JAVA – Bharat & Co. [ISBN No. : 978-93-81786-40-6]2. Complete JAVA2 Certification3. JAVA2 Black Book4. A Programmer Guide to JAVA Certification By Khalid A. Mughal |
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