C. U. SHAH UNIVERSITY, WADHWAN CITY.

Faculty of: **Computer Science**
Course: **Bachelor of Computer Applications**
Semester**: IV**
Subject Code**: 4CS04APA1**
Subject Name: **Programming with JAVA**

Sr. No	Branch Code	Subject Code	Subject Name	Teaching hours/ Week			Credit hours	Credit Points	Evaluation Scheme/ Semester								Total
									Theory				Practical				
									Internal Assessment		End Semester Exams		Internal Assessment		End Semester Exams		
				Th	Tu	Pr			Marks	Duration	Marks	Duration	Marks	Duration	Marks	Duration	
2	2	4CS04APA1	Programming with JAVA	4	--	4	8	6	15(SE) 15(CE)	1Hr.	70	2½ Hrs.	50 (IP) 50 (CE)	1½ Hrs.	--	--	200

AIM:
- This course provides the knowledge necessary to understand java and develop dynamic web pages using java server page (JSP) & Servlets.
- It covers the basic underlying concepts and techniques recently used in the IT industry.
- After going through this course student will be able to do Web Development and Desktop Application Development.

COURSE CONTENTS

Unit I Introduction to Swing   10 Hrs.
- Introduction to swing, Difference between swing and AWT
- Various container classes
- Layout managers (FlowLayout, BorderLayout, GridLayout, CardLayout)
- Swing components (JLabel, JTextArea, JTextField, JButton, JCheckBox, JCheckBoxGroup, JRadioButton, JPasswordField, JComboBox, JList, JFrame)

Unit II Java Database Connectivity (JDBC)   10 Hrs.
- Overview of JDBC and its architecture
- Various JDBC drivers
- Database exception handling
- java.sql package (JDBC API for connectivity)
- Connection class
- Statement class
- PreparedStatement class
- CallableStatement class
- ResultsetMetaData class
- DatabaseMetaData class
- Java program connectivity to MySQL, Ms-Access or Oracle

Unit III Introduction to J2EE   04 Hrs.
- Overview of J2EE and J2EE Platform
- Introduction to J2EE APIs
- Enterprise Architecture Styles (Two-tier, Three-tier and N-tier architecture)
- Overview of web containers

Unit IV Java Servlets 12 Hrs.
- Overview of Servlet and its architecture
- Lifecycle of Servlet
- Servlet API (javax.servlet and javax.servlet.http)
- Creating, deploying and running Servlets
- Handling Servlet request and response
- Reading Servlet initialization parameters
- Session tracking methods
- Servlet programs with JDBC

Unit V Java Server Pages (JSP) 12 Hrs.
- Introduction to JSP and its architecture
- Difference between JSP and Servlet
- JSP Lifecycle
- JSP directive elements
- JSP scripting elements
- JSP action elements
- JSP implicit objects
- JSP scope
- Include action
- Forward action
- Cookie and Session management using JSP
- Error & Exception handling in JSP
- JDBC connectivity programs using JSP

REFERENCE BOOKS:

1. Java 2 Programming Black Book, Author: Steven Holzner, Published by Dreamtech Press, ISBN 817722655X
2. Java2 The Complete Reference, Author: Schildt, Published by Tata McGraw Hill, ISBN 0070495432
3. The Class of Java, Author: Pravin Jain, Published by Pearson Publication.
4. The Java Programming Language, Author: Ken Arnold, James Gosling, Publisher: Wesley Pearson Education.