C.U.SHAH UNIVERSITY – Wadhwan City

FACULTY OF: -Technology and Engineering (Diploma Engineering)
DEPARTMENT OF: -Computer Engineering
SEMESTER: - VI   **CODE**: - 2TE06AJP1
NAME– Advanced Java Programming.

Teaching & Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme				Evaluation Scheme							Total
		Th	Tu	Pr	Total	Theory				Practical (Marks)			
						Sessional Exam		University Exam		Internal		University	
						Marks	Hours	Marks	Hours	Pr/Viva	TW	Pr	
2TE06AJP1	Advanced Java Programming	04	00	04	08	30	1.5	70	03	......	20	30	150

Objectives: - Java is a powerful language for cross-platform, object-oriented application programming. It can be found in many types of applications such as standalone, web, enterprise, and mobile. Advanced Java Programming is a higher level study of many advanced Java topics including Applet, AWT, JDBC, JSP, Servlets. After completing this course student will get a better understanding of how to design desktop and web applications using java.

Prerequisites: - Basic Knowledge of object oriented programming & Core Java Concepts.

Course Outlines:-

Sr. No.	Course Contents	Hours
1	**Working with Java Applets** Introduction , Difference between Applet and Application , Applet life cycle , Applet methods , Applet tag, Passing Parameters to Applet , Graphics class methods	08
2	**AWT , Swing & Event Handling** AWT class hierarchy , Windows Fundamentals , Frame , Panel , AWT components (Label , Text Field , Button , Text Area ,Combo Box , Radio Button) , Layout Manager (Flow Layout , Border Layout , Card Layout , Grid Layout) , GUI Using Swing :JApplet , Jlabel , JTextField , JButton , JCheckBox , JRadioButton , JComboBox , Menu , Event Classes(MouseEvent , KeyEvent , ActionEvent , WindowEvent) , Event Listener Interfaces (MouseListener , KeyListener , Action Listener , WindowListener)	14
3	**Java DataBase Connectivity (JDBC)** Two-Tier & Three-Tier Database Design , JDBC API , API Components , Database Operations (Create , Insert , Delete , Select) Using SQL ,Advantages & Disadvantages of JDBC , JDBC Drivers , JDBC – ODBC Bridge	10
4	**Java Servlets** Introduction, Life Cycle of Servlet , Create , Compile & Request Simple Servlet , javax. Servlet Package , using database with servlet applications.	12

5	**Java Server Pages** Introduction , Relationship of JSP with Applet & Servlet , JSP Scripting Elements , JSP Expressions , JSP Vs Servlet , JSP Declarations	12

List of Experiments:-

- Write a simple applet to prints "Welcome to my applet".
- Write an applet that draws a circle. The dimension of the applet should be 500 x 300 pixels. The circle should be cantered in the applet and have a radius of 100 pixels. Display your name centred in a circle. (using drawOval() method).
- Draw ten red circles in a vertical column in the center of the applet.
- Write an applet and draw a Rectangle of 500 x 300 and fill it with red color.
- Write a java applet which gets input from keyboard and print the key user has pressed.
- Write a java applet to make login form.
- Write a java application to make the following menu.
  - File   Edit
  - ' New   ' Color
  - ' Open   ' Red
- ' Yellow
- ' Copy
- ' Paste
- Write an applet that displays the position of the mouse at the upper left corner of the applet when it is dragged or moved.
- Write an applet that uses the mouse listener, which overrides only two methods which are mousePressed and mouseReleased.
- Write a program that has only one button in the frame, clicking on the button cycles through the colors: red->green->blue-> and so on.one color change per click.(use getBackGround() method to get the current color)
- Write an applet that contains three check boxes and 30 x 30 pixel canvas. The three checkboxes should be labeled "Red", "Green", "Blue". The selection of the check boxes determine the color of the canvas. For example, if the user selects both "Red" and "Blue", the canvas should be purple. (Using Swing)
- Create an application that displays a frame with a menu bar. When a user selects any menu or menu item, display that selection on a text area in the center of the frame.
  - ' (Using Swing)
- Write a database application that use any JDBC driver.
- Develop a UI to perform insert operation on database.
- Develop a UI to perform update operation on database.
- Develop a UI to perform delete operation on database.
- Write a program to present a set of choice for user to select a product & display the price of product.
- Write a simple servlet program which maintains a counter for the number of times it has been accessed since its loading, initialize the counter using deployment descriptor.
- Create a form processing servlet which demonstrates use of cookies.
- Create a form processing servlet which demonstrates use of sessions.
- Write a simple JSP program for user Registration & then control will be transfer it into second page.

- Write a simple JSP program for user login form with static database.
- Write a simple JSP program for user login form with dynamic database.
- Write a JSP program to display the grade of a student by accepting the marks of five subjects.

Learning Outcomes:-
- Clarify Advanced Java Programming concepts.
- Figure out use of AWT, Swing, and JSP & Servlet.
- Implement programming skills for real world problems.
- Solve real time industry problems through advance JAVA programming

Books Recommended:-
- The Complete Reference Java 2 – by Herbert Schildt , TMH publication
- Java Programming Cook Book - by Herbert Schildt , TMH publication
- Introduction to Java Programming – by Y. Daniel Liang , Pearson
- Java Programming – by Sachin Malhotra & Saurabh Chaudhary , Oxford

E- Reference:-
- http://www.javabeginner.com/
- https://docs.oracle.com/javase/tutorial
- http://math.hws.edu/javanotes/c6/index.html