GLS UNIVERSITY
Bachelor of Computer Applications (BCA)
(Core Course)
Semester-IV
0301405 PRACTICAL ON ADVANCED JAVA

1. Course Objective:

- To introduce the concept of multi JApplet, GUI controls, layout management in GUIand event handling programming.
- To develop Graphical User Interface based software using advanced Java.
- To read write data from Input/Output Files in java
- To know database connectivity through the JDBC-ODBC.

2. Course Duration:

The course will have sessions which are divided into five modules. Each module consistsof nine sessions of 60 minutes each and carries a weight age of 20%.

3. Course Contents:

Module No.	Modules/ Sub-modules	No of Sessions	Marks Weightage
I	**Practicals related to File Handling**	09	20%
	• Write a program to read the data from file.		
	• Write a program to write the data to a file.		
	• Write a program to read the data from console and write a data console.		
	• Write a java program that generates 10 random integer numbers and store them in a file. It should also display last number by accessing it directly.		
	• Write a java program that writes first 10 Fibonacci series numbers to the file using writeShort() method. By using readShort() method read the file and display the numbers. The name of the file should be given from command line.		
	• Write a java program that generates 10 random double numbers and store them in a file. Read the file and display the numbers, sum, avg, max and min.		
	• Write a java program that reads a text file and creates a new text file with each letter converted to upper case whether it is lower case or upper case.Write a java program to read two different file and merge in single third file.		
	• Write a java program to read first file and write in second file.		
	• Write a java program which read .java file and create same other .java file		
	• Write a java program which implement “copy” command of DOS.		

	• Write a java program which read data randomly.		
	• Write a java program which write and read class object to file.		
	• Write a java program which write and read java data type in file.		
II	**Practicals related to Collection**	09	20%
	• Creating linked list of string type and add items to it.		
	• Creating linked list of integer type and perform following operations to it. Push: 1.2.3.4 Add:5 POP: 3 Times Note: Work like stack structure		
	• Creating linked list of long type and perform following operations to it. Add: 1.2.3.4 Return head of queue Return anf remove head of queue POP: 3 Times Note: Work like queue structure		
	• Creating linked list of long type and perform following operations to it. Addfirst: 0 Addlast:5 Removefirst Removelast Note: Work like double ended queue		
	• Create a set of hashset type and add items to it. Also check the avaibility of particular item using contains method.		
	• Create a set of treeset type and add items to it. Display the first and last method of treeset		
	• Create a set of hashset type and add items to it.Perform following functions on it:Check size remove containsAll retainsAll removeAll addAll		
	• Create a set of treeset type and add items to it.Display the size of treeset		
	• Create a hashmap of type integer and string and put five records.Also travrse using getKey and getValue using Map.Entry		
	• Create A hashmap of type integer and string and put five records.Also travrse using getKey and getValue using iterator		
	• Create a hashmap of type integer and string and put five records. Perform following opeartions: get(“key”) Size remove(“key”)		
	• Create A treemap of type string and string and put		

	five records.Also travrse using getKey and getValue using Map.Entry		
III	**Practicals related to GUI and SWING**	09	20%
	• Write a program to create JFrame with a JButton . when the user clicks the button, display your favorite cricket team in a large font.		
	• Create a JFrame that contains a JLabel and JButton. When user clicks the JButton, change the font typeface, style and size on the Jlabel.		
	• Create a JFrame that contains two JTextFileds, a JButtons, three JLabels, when the user types an employee's first and last names in a JTextfield, the employee's job title displays in a second JTextField.		
	• Create a JFrame that initially displays a single JButton. When the user clicks the JButton, display a JLabel that prompts the user to enter an integer, a JTextField into wich the user can type the interger, and a second JButton contain the text"Double me". When the user clicks the second button the integer is doubled and the answer is displayed in the JTextField.		
	• Create a JFrame for simple calculator.		
	• Create a JFrame for Student information entry and display using Jlabel.		
	• Create a JFrame and set the layout to BorderLayout. Place a JButton containing the name of a politician in each region (left, center, and right, or west, center, and east). Each politician's physical position should correspond to your opinion of his political stance. Save the file as JPoliticalFrame.java.		
	• Write an application that lets you determine the integer value returned by the InputEvent method getModifiers() when you click your left, right, or (if you have one) middle mouse button on a JFrame. Save the file as JLeftOrRight.java.		
	• Write a JFrame that uses a JPanel to show the messages "Mouse Entered" and "Mouse Exited" when the mouse enters and exits the applet. Also, when the mouse is clicked on the applet, a message "Mouse Clicked Here" should appear near the clicked location. Save the file as JMouse.java and save its host file as TestJMouse.html. Make a color choice from radiob button and change the background color .		
IV	**Practicals related to GUI and SWING**	09	20%
	• Take two textbox control to fetch two string from user and on button click concatenate both string and display in Dialogbox		

	• Create a GUI application for student regestration form. Display all the details in label or dialog box.		
	• Create a GUI application for employee regestration form. Display all the details in label or dialog box.		
	• Create a GUI application for customer regestration form. Display all the details in label or dialog box.		
	• Take two textbox control to fetch two string from user and on button click compare both string and display message in dialogbox		
V	**Practicals on Database**	09	20%
	• Write a java program for employee payroll system. Data should be stored in open source database.		
	• Write a java program for employee attendance management system.		
	• Write a java program which get the student marks and store it in database. Also provide facility for update, delete and insert student's data.		
	• Write a program to perform CRUD operations in database.		
	• Write a java program to create a table with the following fields and insert 5 sets of records into it: Name - 25 characters Designation – 10 characters Basic Pay – Number		
	• Write a java program to create a table with the following fields and insert 5 sets of records into it: Emp_id - Number Name - 25 characters Designation – 10 characters Basic Pay – Number Also fetch user name from textbox and delete that record from data base		
	• Write a java program to create a table with the following fields and insert 5 sets of records into it: Emp_id - Number Name - 25 characters Designation – 10 characters Basic Pay – Number Also fetch user name from textbox and update salary of that record into data base		

4. Teaching Methods:

The following pedagogical tools will be used to teach this course:

1. Lectures and Discussions
2. Assignments and Practical Demos
3. Video, e-learning
4. Problem Solving

5. Evaluation:

The students will be evaluated on a continuous basis and broadly follow the scheme givenbelow:

1.	Assignments / Quizzes	30% (Internal Assessment)
2.	Internal Examination	20% (Internal Assessment)
3.	External Examination	50% (External Assessment)

6. Basic Text Books:

Sr. No	Author/s	Name of the book	Publisher	Edition
T1	Dr K. Somasundaram	Programming in Java2	JAICO Publishing House	Latest

7. Reference Books:

Sr. No	Author/s	Name of the book	Publisher	Edition
R1	Sachin Malhotra, Saurabh Choudhary	Programming in Java	OXFORD	Latest
R2	M.P. Bhave, S. A Patekar	Programming with Java	Pearson	Latest
R3	Y. Daniel Liang	Introduction to Java Programming	Person	7th

8. List of Journals / Periodicals / Magazines / Newspapers etc.:

Sr. No	Links
1.	http://www.tutorialspoint.com/java/
2.	portal.aauj.edu/e_books/teach_your_self_java_in_21_days.pdf
3.	http://www.learnjavaonline.org/
4.	https://docs.oracle.com/javase/tutorial/java/
5.	http://www.sololearn.com/Course/Java/

9. Session Plan:

Session No.	Topics / Chapters
1-9	Practicals related to File Handling
10-18	Practicals related to Collections
19-27	Practicals related to Swing and Event
28-36	Practicals related to Swing and Event
37-45	Practicals related to Database connectivity

10. Learning Outcome:

Upon the completion of this course, students will be able to:

- Develop Graphical User Interface based software using advanced Java.
- Understand the object-oriented approach, GUI components, networking and databaseconnectivity in programming.
- Design a computer program to solve real world problems based on object-orientedprinciples.
- Develop application with database connectivity through the JDBC-ODBC.