Session Plan

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| **Slot No** | **Topic Planned** |
| 1 | 1. Write a program to print ‘Welcome to Java’. 2. WAP to display two numbers received as command line argument, and print its product 3. WAP to read two numbers and display the output in the form of ‘Sum of 2 and 3 is 5 4. WAP to accept two numbers from the keyboard and swap them. |
| 2 | 1. WAP to read three numbers and the maximum. 2. Find the minimum of three numbers using a single statement. 3. WAP to search for a given element in an array. 4. WAP to sort elements in an array in ascending order. 5. Write a program to print the row wise and column wise sum of a 2D array. 1 2 3 | 6   2 1 1 |4  . . .  3 3 4 |
| 3 | 1. WAP with two functions to check for an integer palindrome. (Function1 should reverse the integer. Function2 should return 1,if it is a palindrome or else 0.) 2. WAP to display numbers from m to n using single while loop. 3. WAP to find the sum of the series 1+(1+2)+(1+2+3)+ +(1+2+3+…+n) using a single while   loop.   1. WAP to find the sum of 1+2/2!+3/3!+4/4!++n/n! using a single for loop. 2. WAP to calculate area of a circle (functions with no argument and no return type.) 3. WAP to reverse a number (functions with argument and no return type.) 4. WAP to calculate sum of digits of a number (functions with argument and return type.) 5. WAP to calculate sum of n even numbers (functions with no argument and return type.) |
| 4 | 1. WAP with nested functions to find the maximum of three numbers. Function1 should take in two arguments and find the maximum. Function2 should take in the third number and the maximum from function1 to find the maximum.) 2. WAP to find the factorial of n, using recursion. 3. WAP to display numbers from n to 1 and vice versa, using recursion. |

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|  | 1. Using constructors, implement the operations of a stack. 2. Create a class “height” having a foot and inch part. Provide functions for read, display, add and multiplying two heights. 3. Using method overloading , find the area and perimeter of a rectangle. |  |
| 5 | 1. WAP to display even numbers upto ‘n’ using a static function. 2. WAP (menu driven) to demonstrate function overriding in java, by displaying details of a student, and a teacher. 3. Create a class for employee having eno,ename and esal as data members. Provide functions for reading and displaying employee details. (Accept information of n employees in the main function, display the same and search for an emp (using eno)). |  |
| 6 | 1. Program to implement run time polymorphism in Java using interface, wrt calculating area of a triangle. 2. Create an interface Shape having two prototypes disp() and calc(), to diplay the shape and calculate area respectively. Create two classes circle and rectangle which implements the above interface. In the main function create a reference of Shape depending on the user-choice. 3. WAP to implement a function using call by value to swap two float numbers. 4. WAP to implement a function using call by reference to find the square root of a given number. |  |
| 7 | 1.     Create a class for Cstring having a string data member and provide functions for read , display, compare(return Boolean value),add and concatenate.  2.        Write a program to implement object cloning for the class Distance which has inch and feet as data members.  3.          Write a program to create a menu driven program for performing the following operations.          Length of a given string          Compare for equality          Extract a substring from a string.          Convert to uppercase and lowercase  4.        Write a program to reverse a string  5.          Write a program to calculate the prime factors of a given number, using packages.  6.          Write a program to calculate the value of nCr for given value of n & r, using packages. |  |
| 8 | 1.        Read numbers into an array. Perform validations using multiple catch statements / predefined Exceptions.    2.          Write a program to implement a user defined Exception, which will throw an Exception when a given number is prime.  3.          Write a program to implement throw and finally. |  |
| 9 | 1. Write a program to create multiple threads by extending the Thread class. 2. Write a program to implement threads by implementing the Runnable interface. 3. Write a program to implement Synchronization using inter-thread communication. 4. Implement the Producer- Consumer Problem, using Threads. |  |
| 10 | 1. Write a program to display the contents of a directory by displaying the subdirectory’s name first, then the file names. 2. Write a program to display the contents of a directory including its subdirectory content using recursive function. 3. Write a program to search for a given file name in a directory (including its subdirectory) content. | |
| 11 | 1. Write a menu driven program to demonstrate Random Access File handling, with options for creating, deleting, writing, appending and reading the file. 2. Write a program to implement a Generic method, which can display the elements of various arrays of different data types, and find the length of each array. | |

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|  | 1. Write a program to implement a Generic class, and display the types of various parameters passed. 2. Using bounded type parameters, compare the averages of various arrays. |
| 12 | 1. Write a program to implement Serialization and De-Serialization, for an object of Student Class. 2. Write a program to implement IS-A Serialization and De-Serialization, for a Maruti Car inherited from Vehicle. 3. Write a program to implement HAS-A Serialization and De-Serialization for the Engine of a Vehicle. 4. Write a program to Serialize/De-Serialize selected attributes of an Employee. |
| 13 | 1. Write a program to implement various methods of a StringBuffer class. 2. Write a program to implement communication between a client and server client, via Socket Programming. 3. Write a program to implement one-one chatting using the TCP protocol. 4. Write a program to accept a file name given in the client, and to download the content from the server side. |
| 14 | 1. Write a program to implement public chatting. 2. Accept a number from the client, and print its factorial in the server. |
| 15 | 1. Write a program to implement connection less communication. 2. Write a program to get protocol, file name, host, path and port of a given URL. 3. Write a program to download a file from a given URL 4. Implement Two- way Communication using UDP Protocol. |
| 16 | 1. Write a program to create a table Citizen( Id(Primary), Name, age, address, DOB), insert records, and display the records. 2. Assume that login is a table which has Uname, Upass. Check whether a record with “Uname=”Bob” and “UPass=”Alice123#”is present in the table. |
| 17 | 1. Construct the following tables:   Department (dno(Primary), dname, dloc)  Emp ( eno(Primary), ename, esal ,dno(Foreign))   1. Write a program for displaying information in the following order:   **eno ename esal dname dloc**  101 Rani 10,000 MCA Kochi  102 Vani 20,000 MSW Delhi |
| 18 | 1. Program to implement database connectivity using object oriented concepts. |
| 19 | 1. Write a JDBC program with Parametrized queries to update a given record (Rani’s salary to 15,000) in the Emp table. 2. Write a JDBC program with Parametrized queries to list the records of Emp table which has records whose names start with the alphabet “R”. 3. Write a JDBC program with PreparedStatement to delete the records of Emp table which has records whose salary is less than 10,000. |
| 20 | 1. Implement a JDBC program which uses a Stored Procedure to insert records into Department table. 2. Use Callable statement to implement a Stored Procedure to display the Ename and Salary of all employees. 3. Write a JDBC program to implement Transaction Management in the Department table. 4. Write a JDBC program to depict the usage of SQLException Class and SQLWarning Class |
| 21 | 1. Using Java AWT components, read text from a text box, and insert it into a list. Similarly, remove selected items from the list, and place it into another list. 2. Implement a numeric calculator using Java AWT. |
| 22 | 1. Create a menu, for file and edit options. using AWT. 2. Replicate a Notepad editor using AWT 3. Design a login frame for a shopping site, using GUI - Database Connectivity. 4. Using AWT, draw a house/ car. |
| 23 | SWING PROJECT |
| 24 | 1. Using applets, create a colored image of your choice, and move it in a zig zag/wavy motion.  2. With music in the background, use AWT components to find the sum and product of two numbers.  3. Using applets, draw a Christmas tree.  4. With parameter passing, check whether the sum of the passed numbers is less than, greater than or equal to zero. Based upon the result, display different images from a folder. |