BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(An Autonomous Institution, Affiliated to VTU Belagavi)

Yelahanka, Bengaluru – 560064.

Department of Master of Computer Applications

Java Programming & Laboratory [22MCA204]

Java Question Bank -22MCA204

Course Coordinator Shivakumara T

Module-1

1. Exemplify the object oriented programming principles of JAVA
2. Elaborate on Java Naming Conventions and Java Literals (any 5)
3. Discuss the importance of constructors in Java. Exemplify all type of constructors.
4. How to call super class constructors and super class members using super? Demonstrate with an example.
5. Write inheritance and its types. How multiple inheritance achieved in JAVA? Write a program to calculate the area of a rectangle and triangle by implementing multiple inheritance.
6. What is method overriding? Explain how it allows java to support run-time polymorphism with an example.
7. Demonstrate method overriding? Illustrate how it allows java to support run-time polymorphism.
8. Write about automatic type promotion in expressions with rules demo program.
9. What are different types of iteration statements and Jump statements? Give example.
10. Explain the concept of a default constructor and parameterized constructors with an example.
11. Discuss briefly a. this keyword b. Garbage collection c. For-Each style loop d. Bitwise operators
12. Give any five methods of StringBuffer class with syntax and example.
13. Define a string. Explain with example program for searching a specified character or substring.
14. What is the difference between = = and equals() method.
15. Explain the multiple usage of static keyword in java with example program.
16. What is the difference between constructor and method? Using example, explain method overloading and constructor overloading.
17. Explain multiple usages of final keyword with example.
18. What is an interface? How to extend an interface explain with demo program.

19. List out the access specifies in java and given a table for visibility of these members within the package and outside the package.
20. Explain the i. buzzwords of JAVA. Ii. Varags iii. Final keyword
21. Explain the various primitives data types used in Java. Give suitable examples.
22. Define an Array. Write the array declaration syntax for multidimensional arrays. Write a simple Java program to create an array of objects.
23. Explain method overloading and constructor overloading with suitable examples.
24. What is method overriding? Explain how it allows Java to support run-time polymorphism with an example.
25. Demonstrate a simple program, the constructors and methods in ArrayList class.

Module-2

1. What is an exception? Explain exception handing mechanism with proper example.
2. How to define i. multiple catch blocks ii. Nested try blocks
3. Explain throw, throws and finally with example program.
4. Demonstrate the concept of garbage collection through suitable examples.
5. What is Exception? Explain how exception handling mechanism can be used for debugging a program.
6. Define package. Explain the creation of a package using a suitable example program.
7. Develop a simple program and explain multiple catch blocks.
8. Define synchronization? Explain how inter-thread communication can be achieved in multithreading using producer and consumer problem.
9. Define multithreading? Construct a java program to create multiple threads in Java by implementing runnable interface.

Module-3

1. Define a thread. Explain the two ways of creating threads with example.
2. What is synchronization? Explain how inter thread communication can be achieved in multithreading using example program.
3. Explain about thread priorities in Java.
4. What is enumeration? Write a Java program to create an enumeration Day of Week with seven values SUNDAY through SATURDAY, Add a method isworkday() to the DayofWeek class that returns true if the value of which it is called is MONDAY through FRIDAY, otherwise false.
5. What is autoboxing and auto unboxing in arithmetic expressions? Explain with example.
6. Explain the following: i. Values() and ValuesOf() methods ii. Type Wrappers iii. compareTo()

Module-4

1. Explain the structure of a servlet program with a servlet template.
2. List and explain the methods involved in the servlet life cycle.
3. Write a servlet program which demonstrates the usage of the getParameter() method.
4. List and explain any six methods of HttpServletRequest class.
5. Explain the steps in detail involved in sending the cookies to the client.
6. Write a servlet program to check whether the session is new or old.
7. What is the need for JSP, benefit and advantages of JSP over competing technologies?
8. Explain the different types of JSP tags with an example for each.
9. List all the attributes of page directive tag and explain any five with an example for each.
10. Write a JSP program which displays an applet with the help of <jsp:plugin> tag

Module-5

1. What are the different categories of JDBC drivers?
2. What are the basic steps that need to be followed while writing an application that uses JDBC API?
3. Explain PreparedStatement object with an example java program.
4. What is the advantage of using addBatch() and executeBatch() methods in JDBC.
5. Explain the following advanced JDBC data type: BLOB, CLOB.
6. Explain transactons, Security and Timer specification of container services in EJB.
7. With a neat diagram, explain the states of life cycle of a stateless session Bean.
8. Write short notes on i. Entity Java Bean ii. Session Bean iii. Message Driven Bean

Course Coordinator

Program List - Basic Java Programs

1. Demonstration of Command Line Based Java Programming – Small Finance Application

i. Declaration of variables and Initialization,
ii. Conditional and Iterative Statements - If, else, for, while
iii. Strings,
iv. Arrays and
v. Getting user input through Java Stream Classes.

2. Demonstration of Java Methods, Scope and Recursion –

i. Method parameters

ii. Method overloading
iii. Scope
iv. Basic OOPS concepts
    a. Class
    b. Object
    c. Constructors
    d. Modifiers

3. Demonstration of OOPs concepts
i. Inheritance – Single, multiple, multilevel
ii. polymorphism
iii. Inner Classes,
iv. Abstraction,
v. Interface
vi. Enums.

4. Demonstration of the following
i. Java Exceptions
ii. Threads
iii. RegEx

Advanced Java Programs

1. Demonstration of JDBC Client-Server Program using JavaServlets / JavaServerPages. (Enquiry Form)

2. Demonstration of Cookies and Session Handling Using JavaServlets / JavaServerPages. (2-Page Website)

3. Demonstration of Java Beans – Student Markscard.

4. Demonstration of Entity Java Bean includes Session Bean – Student Registration Form.

Course Coordinator