Unit I

1. Explain the terms:
   i) Class
   ii) Object
   iii) Polymorphism
   iv) Encapsulation
   v) Inheritance
2. Explain various loops used in JAVA and also write a program to calculate the following sum: 5+10+15+20+…..+100
3. Describe various data type supported in JAVA with an example.
4. Explain an Operator? Write a program for Boolean Operator.
5. Explain steps for executing a Java program. Also write simple JAVA program to display "Hello World".
6. Write a java program to print the square of first 10 even numbers.
7. Write a program to find largest number amongst the three numbers using conditional or ternary operator.
8. Write an application program in java to Swap Two Numbers Using Third Variable.
9. Explain widening and narrowing in the context of Java primitive date type conversion.
10. Write a Java Program to Check Whether the Character is Vowel or Consonant using IF-ELSE.
11. Differentiate between procedural language and object oriented language?

Unit II

1. What is Constructor? Explain constructor overloading with an example.
2. Explain the use of "this" keyword with an example.
3. What is an array? Write a program in java to sort elements of given array in ascending order.
4. Write a program to define class and object.
5. Explain the difference between instance variable, local variables and static variables with an example.
6. Write a class student having data members name, roll_no and branch of student. Declare one constructor to initialize above data members and one display() method to display the information of a single student.
7. Describe the "this" keyword to call a constructor from another constructor with an example.
8. Write a JAVA program to demonstrate method overloading.
9. Write a Java program that creates an object and initializes its data members using constructor.
10. What is command line arguments? Explain with example.

Unit III

1. What is inheritance? Explain multilevel inheritance with an example.
2. Explain the difference between abstract class and abstract method.
3. Write a program to solve a problem of method overriding.
4. Explain in detail about:
   i) Packages
   ii) Enum Type
5. What is package? Explain the procedure for creating user defined package.
6. Explain about:
   (i) Abstract class
   (ii) Super keyword
   (iii) Final keyword
7. Create a class named 'Member' having the following members:
   Data members
   1 - Name
   2 - Age
   3 - Salary
   It also has a method named 'printSalary' which prints the salary of the members.
   Two classes 'Employee' and 'Manager' inherits the 'Member' class. The 'Employee' and 'Manager' classes have data members 'specialization' and 'department' respectively. Now, assign name, age, and salary to an employee and a manager by making an object of both of these classes and print all the respective data members of the classes.
8. Explain the difference between abstract class and Interface

Unit IV

1. Explain about, Buffered Input Stream and Buffered Output Stream with an example.
2. Write a program to handle array index out of bound exception.
3. Write a java program to read character stream using file reader.
4. List out checked and unchecked exception.
5. What is an Exception handling mechanism? Write a program to handle following exception
   i) Divide by zero
   ii) Array index out of bound
6. Write a program to create and delete a file object.
7. Write a java program to write the data into file using writer class.
8. Explain the following terms: —
   (i) Try
   (ii) catch
   (iii) throw

(iv) throws
(v) finally
(vi) exceptions.

9. What is exception handling mechanism ? Write an application which handles arithmetic exception.
10. Write a program that creates a text file called test.txt and writes on it the string "some text written on a file".

Unit V

1. Explain the life cycle of an applet in detail.
2. Write a program to display string on appletviewer and rectangle using drawRect() method.
3. Explain in detail about:
   i) getDocumentBase()
   ii) getCodeBase()
4. Differentiate the following:
   i) applet and application
   ii) drawOval() and drawRect()
5. What is an applet? How does it differ from an application and also explain life cycle of an applet.
6. Write an applet program to draw circle using drawOval() method and also display the string “SGBAU” inside the circle.
7. Explain applet tag in detail.
8. Differentiate between:
   i) paint() and repaint() methods
   ii) applications and applets
9. Write a program to pass employee name and id number to an applet.

Unit VI

1. Write a program to create checkbox
2. Explain delegation event model with an example
3. Explain following terms:
   i) Adapter classes
   ii) Inner classes
4. Write a program to create a list on appletviewer.
5. Write an applet program to draw two button objects with label as Red and Green, when user click on a particular button then background color will be change.
6. Write a program to demonstrate the key event handlers.

7. Write a Java Application to create a file menu with menu items like New, Open, Save, Print and Close.
8. Explain Mouse Listener and mouse motion listener interface in event delegation model.