

**II B.Tech I Semester Supplementary Examinations, February 2007
OOP THROUGH JAVA****(Common to Mechanical Engineering, Mechatronics, Metallurgy &
Material Technology, Production Engineering and Automobile Engineering)**
Time: 3 hours **Max Marks: 80****Answer any FIVE Questions
All Questions carry equal marks**

1. (a) List the eight data types used in Java. Give examples.
(b) Write a while loop to find the smallest n such that n^2 is greater than 10,000. [8+8]

2. (a) What is the difference between equality of objects and equality of objects and equality of references that refer to them?
(b) What is the difference between a public member and a private member of a class?
(c) write an application that computes the value of ex by using the formula:
$$e^x = 1 + x/1! + x^2/2! + x^3/3! + \dots$$
 [4+4+8]

3. (a) What are the differences between private, final and static variables?
(b) Explain about Dynamic Method Dispatch. [8+8]

4. (a) What is interface? Write a program to demonstrate how interfaces can be extended.
(b) What is package? How do you create a package? Explain about the access protection in packages? [8+8]

5. (a) Explain how threads with different priorities execute in environment which supports priorities and which doesn't support priorities.
(b) what are the functions available in java related to priority. [10+6]

6. What are the methods supported by KeyListener interface and MouseListener interface. Explain each of them with examples. [8+8]

7. What are various JFC containers? List them according to their functionality. Explain each of them with examples. [16]

8. Write a program to illustrate the usage of the following methods of StringBuffer class. Explain the output in each case. Delete(), setCharAt(), deleteCharAt(), append(), charAt(), getChars(). [16]

**II B.Tech I Semester Supplementary Examinations, February 2007
OOP THROUGH JAVA**

(Common to Mechanical Engineering, Mechatronics, Metallurgy &
Material Technology, Production Engineering and Automobile Engineering)
Time: 3 hours **Max Marks: 80**

**Answer any FIVE Questions
All Questions carry equal marks**

1. (a) Describe the genesis of java. Also write brief overview of java
(b) Write a program that will read an unspecified number of integers and will determine how many positive and negative values have been read. Your program ends when the input is 0. [8+8]

2. (a) Describe the relationship between an object and its defining class. How do you declare a class? How do you declare an object? How do you create an object? How do you create and declare an object in one statement.
(b) What are differences between constructors and methods?
(c) List the modifiers and describe their purposes. [8+4+4]

3. What is inheritance? Explain the member access mechanism in inheritance with an example. [16]

4. Write a program to create an interface containing a static inner class. Implement this interface and create an instance of the inner class. [16]

5. (a) Explain how threads with different priorities execute in environment which supports priorities and which doesn't support priorities.
(b) what are the functions available in java related to priority. [10+6]

6. (a) What is Delegation Event model? Explain it. What are its benefits?
(b) Define Event. Give examples of events. Define event handler. How it handles events. [8+8]

7. (a) Explain various components of User Interface.
(b) How will you arrange components on User Interface? [6+10]

8. (a) What are sockets? Explain the classes in java with regard to sockets.
(b) What do you mean by URL? How to create an URL? [8+8]

**II B.Tech I Semester Supplementary Examinations, February 2007
OOP THROUGH JAVA**

**(Common to Mechanical Engineering, Mechatronics, Metallurgy &
Material Technology, Production Engineering and Automobile Engineering)**
Time: 3 hours **Max Marks: 80**

**Answer any FIVE Questions
All Questions carry equal marks**

1. (a) How are data and methods organized in an object-oriented program?
(b) What are unique advantages of an object-oriented programming paradigm?
(c) Write a program to find the number of and sum of all integers greater than 100 and less than 200 that are divisible by 7. [4+4+8]

2. (a) How do you pass actual parameters to a method? Can actual parameter have the same name as its formal parameters?
(b) What is method overloading? Can you define two methods that have same name but different parameter types? Can you define two methods in a class that have identical method names and parameter profile with different return value types or different modifier? [6+10]

3. What are the types of inheritances in java? Explain each of them in detail. [16]

4. Write a Super class interface employee has name and id number. Write manager and labour derived from employee class. Manager class has member data qfunction and qualification and manager allowance & rank Labour class has member data Dailywage, Overtime & grade. [16]

5. (a) Explain throws statement in Java with the help of an example program.
(b) What is the difference between throw and throws statement. [8+8]

6. Explain different event classes supported by Java. [16]

7. (a) Explain menu class and menu actions.
(b) Is it possible to create nested menus and submenus? If so, how? [8+8]

8. Write short notes on:
(a) Protocols
(b) Sockets
(c) Client/Server
(d) DNS. [4+4+4+4]

**II B.Tech I Semester Supplementary Examinations, February 2007
OOP THROUGH JAVA**

**(Common to Mechanical Engineering, Mechatronics, Metallurgy &
Material Technology, Production Engineering and Automobile Engineering)**
Time: 3 hours **Max Marks: 80**

**Answer any FIVE Questions
All Questions carry equal marks**

1. Write a program that will compute the following series:
 - (a) $1/1 + 1/2 + 1/3 + \dots + 1/n$
 - (b) $1/1 + 1/2 + 1/2^2 + \dots + 1/2^n$. [8+8]
2. (a) What is a constructor? What are its special properties?
(b) How do we invoke a constructor?
(c) What are objects? How are they created from a class? [6+4+6]
3. Create a base class with an abstract print() method that is overridden in a derived class. The overridden version of the method prints the value of an int variable defined in the derived class. At the point of definition of this variable, give it a nonzero value. In the base-class constructor, call this method. In main(), create an object of the derived type, and then call its print() method. Explain the results. [16]
4. Write an interface called shape with necessary methods. Derive classes circle, rectangle, triangle, cone, sphere and cube with appropriate constructors and methods for area, volume also setting & displaying. [16]
5. (a) Explain throws statement in Java with the help of an example program.
(b) What is the difference between throw and throws statement. [8+8]
6. (a) Why do you use frames?
(b) Explain the syntax and functionality of different methods related to Frames. [4+12]
7. Differentiate following with sample programs.
 - (a) Grid & Grid bag layout
 - (b) Card & border layout. [8+8]
8. Write a program to illustrate the usage of the following methods of StringBuffer class. Explain the output in each case. Delete(), setCharAt(), deleteCharAt(), append(), charAt(), getChars(). [16]
