

[E] What happens behind the code `int data=50/0;?`

5 [A] What will be the output of the following code with the file name "CE.java"? Explain the code details briefly

```
class A1
{
    A1 foo()
    {
        return this;
    }
    void print()
    {
        System.out.println("Inside the class A1");
    }
}
class A2 extends A1
{
    @Override
    A1 foo()
    {
        return this;
    }
    void print()
    {
        System.out.println("Inside the class A2");
    }
}
```

```
class A3 extends A2
{
    @Override
    A1 foo()
    {
        return this;
    }
    @Override
    void print()
    {
        System.out.println("Inside the class A3");
    }
}
public class CE
{
    public static void main(String args[])
    {
        A1 a1 = new A1();
        a1.foo().print();
        A2 a2 = new A2();
        ((A2)a2.foo()).print();
        A3 a3 = new A3();
        ((A3)a3.foo()).print();
    }
}
```

[B] Give some scenarios where unchecked exceptions may occur.

4

[C] Differentiate between abstract class and interface.

3

[D] Can we initialize blank final variable? How?

3

4

What will be the output of the following Java programs?

i) package com.javatpoint;
class Test{
public static void main(String[] args){
Student s=new Student();
s.setName("vijay");
System.out.println(s.getName());
}}

ii) class A{
protected void msg(){System.out.println("Hello java");}
}
public class Simple extends A{
void msg(){System.out.println("Hello java");}
public static void main(String args[]){
Simple obj=new Simple();
obj.msg(); }}

compile time error

iii) public class JavaExceptionExample{
public static void main(String args[]){
try{
 int data=100/0;
} catch(ArithmaticException e){System.out.println(e); }
System.out.println("rest of the code...");
}}

iv) abstract class Bike{
abstract void run();
}
class Honda extends Bike{
void run(){System.out.println("running safely");}
public static void main(String args[]){
Bike obj = new Honda();
obj.run(); }}

[B] How to access package from another package?

2

[C] What is the purpose of join method?

2

[D] How to perform two tasks by two threads?

2

[E] What is the Thread Scheduler and what is the difference between preemptive scheduling and time slicing?

4

Patuakhali Science and Technology University
Faculty of Computer Science and Engineering
Dept. of Computer and Communication Engineering

Final Examination of B. Sc. Engineering in CSE Level: 1 Semester: II Session: 2020-2021

Course Code	Course Title	July December 2021	Credit: 03
CCE-121	Object Oriented Programming		Time: 03 Hr
			Marks: 70

- [A]** Answer any 05 out of 06 Questions (Split answers are highly discouraged)
- Fill in the blanks in each of the following statements:
- If a class declares constructors, the compiler will not create a _____ constructor.
 - The public methods of a class are also known as the class's _____ or _____.
 - Lists and tables of values can be stored in _____ and _____.
 - The number used to refer to a particular array element is called the elements _____.
 - A variable known only within the method in which it's declared is called a _____.
 - It's possible to have several methods with the same name that each operate on different types or numbers of arguments. This feature is called method _____.
 - Typically, _____ statements are used for counter-controlled repetition and _____ statements for sentinel-controlled repetition.
 - Methods that perform common tasks and do not require objects are called methods _____.

- [B]** Write a Java statement or a set of Java statements to accomplish each of the following tasks:
- Sum the odd integers between 1 and 99, using a for statement. Assume that the integer variables sum and count have been declared.
 - Print the integers from 1 to 20, using a while loop and the counter variable i. Assume that the variable i has been declared, but not initialized. Print only five integers per line.
 - Repeat part (b), using a for statement.
- [C]**
- What gives Java its 'write once and run anywhere' nature?
 - What happens at runtime during Java compilation?
 - Can you save a Java source file by another name than the class name?
 - Can you have multiple classes in a java source file?
- [D]** Write a Java program to create and display unique three-digit number using 1, 2, 3, 4. Also count how many three-digit numbers are there.

- [A]** What are the various access specifiers in Java? Write an example of public access modifier.

- [B]** Write the rules of Constructor. What is the purpose of a default constructor? Explain with example

- [C]** i) What is the output of the following Java program?

```
public class Test
{
    Test(int a, int b)
    {
        System.out.println("a = "+a+" b = "+b);
        Test(int a, float b)
        {
            System.out.println("a = "+a+" b = "+b);
        }
    }
    public static void main (String args[])
    {
        byte a = 10;
        byte b = 15;
        Test test = new Test(a,b);
    }
}
```

16
17

i) class Test
{
 int i; } 0
public class Main
{
 public static void main (String args[])
 {
 Test test = new Test(); Enron.
 System.out.println(test.i); compile it
 }
}

ii)
class Test
{
 public static void main (String args[])
 {
 for(int i=0; i++)
 {
 System.out.println("Hello PSTU CSE");
 }
 }
}

Enron boolean

- [D]** Write a Java program to print a pyramid using star pattern. Number of rows input from keyboard.

- 3** **[A]** What is the static variable? Explain a java program with and without static variable.
- [B]** i) What is the difference between static (class) method and instance method?
ii) What are the main uses of this keyword?

- [C] Define Object and Class. Write Object and Class Example: main outside the class and main within the class
- [D] Write a Java program to sort an array of given integers using the Bubble sorting Algorithm
Original Array:[7, -5, 3, 2, 1, 0, 45]
Sorted Array : [-5, 0, 1, 2, 3, 7, 45]

- ④ [A] Differentiate between the **throw** and **throws** keyword. *Mum* 3
- [B] "Aggregation represents HAS-A relationship."-explain with example. 3
- [C] Is it possible to make any class read-only or write-only in java? How? 3
- [D] What is the use of instance initializer block while we can directly assign a value in instance data member? 3
- [E] How can you achieve abstraction in java? 2

- ⑤ [A] Write a java program for demonstrating several thread states. 4
- [B] "Java doesn't allow the return type-based overloading, but JVM always allows return type-based overloading."- justify the statement with example. 4
- [C] Multiple inheritances is not supported through class in java, but it is possible by an interface, why? ③
- [D] Can we initialize blank final variable? How? 3

- 6 [A] What will be the output of the following Java programs? ④

```
i) class Dog{
    public static void main(String args[]){
        Dog d=null;
        System.out.println(d instanceof Dog);
    } } false
```

```
ii) class A{
    protected void msg(){System.out.println("Hello java");}
    public class Simple extends A{
        void msg(){System.out.println("Hello java");}
        public static void main(String args[]){
            Simple obj=new Simple();
            obj.msg(); } }
```

Hello java compile time error

```
iii)public class JavaExceptionExample {
    public static void main(String args[]){
        try{
            int data=100/0;
        }catch(ArithmeticException e){System.out.println(e);}
        System.out.println("rest of the code...");}
```

```
iv)class Animal{
    void eat(){
        {System.out.println("eating...");}
    }
    class Dog extends Animal{
        void bark(){
            {System.out.println("barking...");}
        }
    }
    class Cat extends Animal{
        void meow(){
            {System.out.println("meowing...");}
        }
    }
}
```

compile time error

- [B] How to access package from another package? 2
- [C] What is the purpose of join method? 2
- [D] How to perform two tasks by two threads? 4
- [E] What is the Thread Scheduler and what is the difference between preemptive scheduling and time slicing?

Patuakhali Science and Technology University
Final Examination of B.Sc. Engg. (CSE) Level: 1 Semester: II
Course Code: CCE 121 Course Title: Object Oriented Programming
Credit Hour: 3.00 Full Marks: 70 Duration: 03 Hours

[Figures in the right margin indicate full-marks. Split answering of any question is not recommended. Write the full question number e.g. 4(B) before the answer paragraph]

Answer any 5 of the following questions

- 1 A What are the principles of Object Oriented Programming (OOP)? Discuss with example. 3
- 1 B Write a full java program that will read a person's weight (kg) and height (meter) and will calculate the Body Mass Index (BMI).
 $BMI = \frac{\text{weight}}{\text{height}^2}$
If BMI is < 18, display "You are underweight", if BMI>25 display "You are overweight"
else show "Good. You are fit". 5
- 1 C Write an application that calculates the product of the odd integers from 1 to 15. 6

2 A class recursion

```
int func(int n)
{
    int result;
    result = func(n-1);
    return result;
}
Class Output
{
    public static void main(String args[])
    {
        recursion obj = new recursion();
        system.out.print(obj.func(12));
    }
}
```

Write the output of the above code with explanation.

2 B class Teacher {
 String designation = "Teacher";
 String collegeName = "PSTU";
 void does()
 {
 System.out.println("Teaching");
 }
}

public class PhysicsTeacher extends Teacher {
 String mainSubject = "Physics";
 public static void main(String args[])
 {
 PhysicsTeacher obj = new PhysicsTeacher();
 System.out.println(obj.collegeName);
 System.out.println(obj.designation);
 System.out.println(obj.mainSubject);
 }
}

Teachha
Teacher
PSTU
Physics

```
    obj.does();
}
}
```

Write the output of the above code with explanation.

2 C Write the difference between method overloading and method overriding with example. 6

3 A Describe the meaning of polymorphism in java with example. Differentiate between compile time polymorphism and run time polymorphism in java. 4

3 B Compare and contrast abstract classes and interfaces. Why would you use an abstract class? Why would you use an interface? 5

3 C How multithreading help to increase parallelism in java? Explain with an example. 5

Review

4 A Explain the purpose of a method parameter. What is the difference between a parameter and an argument? 3

B One of the world's most common objects is a wrist watch. Discuss how each of the following terms and concepts applies to the notion of a watch: object, attributes, behaviors, class, inheritance (consider, for example, an alarm clock), modeling, messages, encapsulation, interface and information hiding. 4

C Write method distance to calculate the distance between two points (x_1, y_1) and (x_2, y_2) . All numbers and return values should be of type double. Incorporate this method into an application that enables the user to enter the coordinates of the points. 3

D An integer number is said to be a perfect number if its factors, including 1 (but not the number itself), sum to the number. For example, 6 is a perfect number, because $6 = 1 + 2 + 3$. Write a method `isPerfect` that determines whether parameter number is a perfect number. Use this method in an application that displays all the perfect numbers between 1 and 1000. Display the factors of each perfect number to confirm that the number is indeed perfect. Challenge the computing power of your computer by testing numbers much larger than 1000. 4

- 5 A Define Constructor. What happens when a return type, even void, is specified for a constructor? How garbage collector works in JAVA? 4
- B What are overloaded constructors? Describe with an example.
- C Create class SavingsAccount. Use a static variable annualInterestRate to store the annual interest rate for all account holders. Each object of the class contains a private instance variable savingsBalance indicating the amount the saver currently has on deposit. Provide method calculateMonthlyInterest to calculate the monthly interest by multiplying the savingsBalance by annualInterestRate divided by 12—this interest should be added to savingsBalance. Provide a static method modifyInterestRate that sets the annualInterestRate to a new value. Write a program to test class SavingsAccount. Instantiate two savingsAccount objects, saver1 and saver2, with balances of \$2000.00 and \$3000.00, respectively. Set annualInterestRate to 4%, then calculate the monthly interest for each of 12 months and print the new balances for both savers. Next, set the annualInterestRate to 5%, calculate the next month's interest and print the new balances for both savers. 7
- 6 A Why are exceptions particularly appropriate for dealing with errors produced by methods of classes in the Java API? If no exceptions are thrown in a try block, where does control proceed to when the try block completes execution? 3
- B What is the key reason for using finally blocks? Write java code to create a java file and perform read-write to that file? 4
- C Write short note about a) Iterator b) autoboxing c) ArrayList d) auto-unboxing e) set f) collection. 3
- D Define a data-manipulation application for the books database. The user should be able to edit existing data and add new data to the database (obeying referential and entity integrity constraints). Allow the user to edit the database in the following ways: 4
- a) Add a new author.
 - b) Edit the existing information for an author.
 - c) Add a new title for an author. (Remember that the book must have an entry in the AuthorISBN table.)
 - d) Add a new entry in the AuthorISBN table to link authors with titles.

B.Sc. Engg. (CSE) Level-I, Semester-II, Final Examination Jul-Dec/14, Session: 2013-14
 Course code: CCE-121 Course Title: Object Oriented Programming
 Credit hour: 3.00 Full marks: 70 Duration: 3 hours

[Figures in the right margin indicate full marks.]
 Answer any 4 from questions 1 to 5. Answering question no. 6 is must. Split answering is not recommended.

1. (a) Define procedural programming language. What are the benefits of Object Oriented Programming? When do we use private, protected and public keywords? Discuss in short with example.

c) Define: *constructor*, *encapsulation*, *inheritance* and *polymorphism*.

2. a. Declare a class named Student with 3 private member variables for name, ID and marks obtained. The class should have a default constructor which sets name to empty string, id to 0(zero) and marks obtained to 0.0. The class should also contain a 3 parameter constructor to set the member variables.
 b. Write 3 get methods for the class Student you have just written in question 2.a.
 c. Write another class Grade which has a member variable for grade and an object of Student class. Write the default constructor which sets grade to "P" and creates the student object with Student's default constructor. Finally write a member function to calculate the grade using PSTU grading rule.

3. (a) What is method overloading? How can the constructor be overloaded? Explain with example.

b. What is an *interface*? How does polymorphism work in interfaces? What are *this* and *super* keywords? Give examples.

4. Write a program in Java which should take an integer number (*n*) as input first. Then the program should ask to input *n* integer numbers. Then your program will ask for another number (*x*). Now your program should be able to find *x* from those *n* numbers and count how many times *x* was present in the array. The array of integers should be dynamically bound. The program should be in object-oriented way and the functions should be small in size.

5. (a) Write a class named Employee with 3 member variables for first name, last name and basic salary. These variables should be accessible by its subclasses. Now, write a 3 parameter constructor for the class which initialises the names and the basic salary.
 b. Write class named Teacher which should inherit the Employee class of question 3.a. The Teacher class should have 3 private member variables for his number of increment, amount of each increment and salary. This class should have a 5 parameter constructor which calls the constructor of the super class using *super* keyword. Write a method to calculate the salary which is the sum of basic salary and the increment multiplied by the number of increments.
 c. Write another class named TestDriver which should have only the main function. In the main function, instantiate an object of the Teacher class of question 3.b. which should be initialized with 5 parameters. (You may choose any name, basic salary and increment for this). Call the method to calculate the salary of the Teacher object.

Find and point out the errors in the following program.

```
14
public class ErrorChecker {
    private int x;
    private String str;
    ErrorCheck() {
        x = 0;
        str = "";
    }
    public static void main(String[] args) {
        ErrorChecker myClass = new ErrorChecker();
        myClass.x = 50;
        myClass.str = "Hello!!";
        ErrorChecker myAnotherClass = new ErrorChecker(5, "HelloWorld!!");
        myClass.print();
        myAnotherClass.print(str);
    }
}
```

corresponding class's constructor to initialize the object.

d) Each parameter must specify both *a(n)* -----and *a(r)* -----

Patuakhali Science and Technology University

Final Examination of B.Sc. Engineering in CSE Level: 1 Semester: II Session: 2016-17

Course Code

Course Title

July-December

Credit: 03

(CC 121)

Object Oriented Programming

2017

Time: 03 Hr

Answer any 05 out of 06 Questions (Split answers are highly discouraged and write the full question

number e.g. 1(a) before the answer paragraph)

Marks: 70

- 1 (a) What is Java Virtual Machine and how it is considered in the context of Java's platform-independent feature? 2

(b) Classify and explain Java programming error with example. 3

(c) What are the naming conventions for class names, method names, constants, and variables? Which of the following items can be a constant, a method, a variable, or a class according to the Java naming conventions? 4

- (d) Write a program that prompts the user to enter the minutes (e.g., 1 billion), and displays the number of years and days for the minutes. For simplicity, assume a year has 365 days. Here is a sample run: 3

Enter the number of minutes: 1000000000
1000000000 minutes is approximately 1902 years and 214 days

(e) Suppose x = 2 and y = 3. Show the output, if any, of the following code. What is the output if x = 3 and y = 2? What is the output if x = 3 and y = 3? 2

```
if(y > 2){  
    int z = x + y;  
    System.out.println("z is "+ z);  
}  
else  
System.out.println("x is "+ x);
```

Output 6

- 2 (a) Suppose you want to develop a program for a first-grader to practice subtraction. The program randomly generates two single-digit integers, number1 and number2, with number1 \geq number2, and it displays to the student a question such as "What is 9 - 2?" After the student enters the answer, the program displays a message indicating whether it is correct. Here is a sample run: 4

What is 6 - 6? 0 Enter
What is 9 - 2? 5
Your answer is wrong
9 - 2 is 7

- (b) What is y after the following switch statement is executed? Rewrite the code using an if-else statement. 3

```
x = 3; y = 3;  
switch(x + 3){  
    case 6: y = 1;  
    default: y += 1;  
}
```

y = 2

(c) Write a program that prompts the user to enter a three-digit integer and determines whether it is a palindrome number. A number is a palindrome if it reads the same from right to left and from left to right. Here is a sample run of this program: 3

Enter a three-digit integer: 121
121 is a palindrome
Enter a three-digit integer: 123
123 is not a palindrome

- (d) What are the three parts of a for loop control? Convert the following for loop statement to a while loop 4

```
long sum = 0;  
for (int i = 0; i <= 1000; i++)  
    sum += i;
```

corresponding class's constructor to initialize the object.

d) Each parameter must specify both a(n) _____ and a(n) _____.

- no Write a java program that accepts three numbers and prints "All numbers are equal" if all three numbers are 3

- (3) (a) Design a client-server program for primality testing using connection-oriented service in Java 6

(b) What are the disadvantages of connectionless service? Briefly, describe the server creation steps using stream socket. 3

(c) Write the differences between constructor and method. 3

4 (a) What do you mean by synchronization? Suppose you want to read final marks of 50 students stored in an array called “studentResultArray” using five threads. Now design the program using Java programming language and in that case, you must ensure synchronization among threads such that each thread performs the same amount of task without overlapping. 6

(b) Why are two concurrent methods used to create a thread in Java? Create and test a thread named “DownloadSong” which inherit properties from “playSong” class. 3

(c) “Composition is has-a relationship”-Justify this statement with example. 3

5 (a) Differentiate between checked and unchecked exception. Write sample code to create and test a user-defined checked exception called “NameNotFoundException” which return the message “Name not found in database”. 5

(b) Design a class “Account” containing the public method “GetAccountInfo” and another class “Test” which will use the “GetAccountInfo” method. You must ensure that your “GetAccountInfo” method will force the developer to handle “FileNotFoundException” in “Test” class. 5

(c) What is the difference between termination and resumption model of exception handling? Explain stack unwinding with sample code. 3

6 (a) Differentiate among class, interface, and abstract class with example. Why do you think the abstract class is important for software design? Explain with sample code. 6

(b) Create a class “Shape” which will be inherited by class “Circle” and “Rectangle”. Design another class “ShapeUtility” consists of method “PrintShapeInfo” with an argument of “Shape” object. This method will print information according to object type, for example, in case of “Circle” type object; the method will print “Shape is Circle” and so on. Write sample code using the concept of object upcasting and downcasting in Java. 5

(f) Why subclass constructor call superclass constructor explicitly or implicitly? 3

```

    public class A extends B {
        string Name = null;
        super (" name is null");
    }

    public class Test {
        Dog d = new Dog();
        Dog n = (Animal) Animal / Animal
    }
}

test is (Name == null); // system.out.println

```


4 Write a while, a do-while and a for loop that will count backwards from 20 to 10.

Shorty explain different types of inheritance.

Differentiate between method overriding and method overloading?

Q 1 d) Differentiate between method overriding and method overloading?

Q 2 e) Describe two ways of creating thread with code in java. Why java support two different ways of thread creation.

Q 3 f) Write a class named TestClass and add a String data field called data. The data field should be private to the class.

Q 4 g) Now, add a constructor that accepts a starting value for data as its single parameter, and public methods for setting and retrieving the value of data. Call these methods setData() and getData().

5 Differentiate among instance variable, class variable and local variable.

Q 1 h) What is the difference between a class and a structure?

Q 2 i) Is it possible for a class to inherit the constructor of its base class?

Q 3 j) Can you inherit private members of a class? → public, Protected

Q 4 k) What is exception in java? Distinguish between checked exception and unchecked exception.

Q 5 l) Write a Java program to calculate sum of following series. Where the value of n is given by user.

$$1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \dots + \frac{1}{n}$$

10

2

3

4

5

6

6 Q A complete Java program may use the same name for several different methods or variables. Java has a number of features that allow the user to prevent such re-use of names from causing chaos. Describe these under the headings:

Q 1 a) Scope rules within individual functions.

Q 2 b) Visibility of method names within classes, and the effects of inheritance.

Q 3 c) Explain how to set up a 2-dimensional array in Java.

Q 4 d) What are collections and generics in java?
Q 4 e) Write a Java program that will write a list of double numbers into a file. Your program will then read the content of the file and find the summation of the numbers.

16

Patuakhali Science and Technology University
B.Sc. Engg (CSE) Level-I, Semester-II Final Examination-2016 (July-Dec)
Course Code: CCE-121 Course Title : Object Oriented Programming
Credit Hour : 3.00 Full Marks:70 Duration: 3 Hours

[Figure in the right margin indicates full marks. Split answering of any question is not recommended.]

Answer any 5 of the following questions.

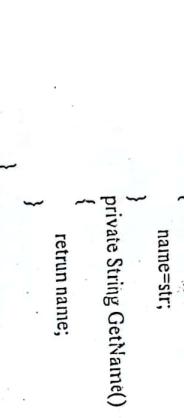
- Q. a)** What are the differences between process and thread? Depict the life cycle of a thread. [2+2]
- b)** Write down the sample code of thread creation using Java in two different ways. [5]
- c)** What is deadlock? Explain deadlock situation using synchronized method and synchronized object. [1+4]
- Q. a)** What is the difference between class and interface? You know that all classes in java are inherited from java.lang.Object class. Are interfaces also inherited from Object class? [2+1]
- b)** Can a class extend more than one classes or does java support multiple inheritances? If not, why? How do you implement multiple inheritances in Java? Answer with java sample code. [3+4]
- c)** How do you restrict a member of a class from inheriting to its sub classes? Are constructors and initializers also inherited to sub classes? What happens if both, super class and sub class have a field with the same name? Compile time. Java inheritance confusion [2+1+1]
- Q. a)** What is an exception? Draw the exception hierarchy. Differentiate between checked and unchecked exception with an example. [1+1+2]
- b)** Write down five keywords using in java exception handling with their purpose. How to create custom Exception with Java? [5]
- Q. a)** "All catch blocks must be ordered from superclass exception to subclass exception"-Justify this statement with Java code. [4]
- Q. a)** Create an overload and override version of a method named DISPLAY and overload method must be defined by changing the number of method parameters. Method overloading is not possible by changing the return type of method. Why? [2.5+2.5]
- b)** What is the abstract method? Write a practical scenario where the abstract method can help to design the software. [1+4]
- f)** Briefly describe object upcasting and downcasting. Sample code is appreciated. [4]
- Q. a)** Create a java class using following attribute (instance variable should be public and method should be private.) [3]
- Class name: Account
- Instance Variable: account_holder_name, amount
- Method: WithdrawMoney, Deposit
- b)** What are the differences between method and constructor? [2]
- c)** corresponding class's constructor to initialize the object.
d) Each parameter must specify both a(n) _____ and a(n) _____
- d)** Program that accepts three numbers and prints "All numbers are equal" if all three numbers are different and "Neither all are equal or different"

CS CamScanner

[1+2]

over or
can you
see me
now

d) What is UML? Draw the UML of following programs

(4) 

```
class Human
{
    String s1,s2,name;
    public Human()
    {
        s1="Super class";
        s2="Parent class";
    }
    public Human(String str)
    {
        s1=str;
        s2=str;
    }
    private void SetName(String str)
    {
        name=str;
    }
    private String GetName()
    {
        return name;
    }
}
```

[3]

```
public static void main(String[] args)
{
    try
    {
        return;
    }
    finally
    {
        System.out.println("Finally")
    }
}
```

Anso, Finally

`System.out.println("Hello...");`

compilation error

Briefly describe access modifiers of Java
object oriented programming in your code.

Ques: Briefly describe access modifiers of Java? How do you achieve encapsulation property of object oriented programming in your code? [3+1]

五

Consider following condition write a sample java code

- i) Super class : Animal
- ii) Super class contain parameterized constructor
- iii) Sub Class: Mammal
- iv) Sub Class contain default constructor

卷之三

(B) How to access package from another package?

[C] What is the purpose of join method?

Patuakhali Science and Technology University

Faculty of Computer Science and Engineering

Dept. of Computer and Communication Engineering

e^c

F Removal Examination of B. Sc. Engineering in CSE Level: I Semester: II Session: 2019-2020
Course Code Course Title July December 2020 Credit: 03
CCE-121 Object Oriented Programming Time: 03 Hr
Marks: 70

[A]

Answer any 05 out of 06 Questions (Split answers are highly discouraged)

[B]

Explain the differences among JDK, JRE, JIT and JVM.

[C]

What are the various access specifiers in Java? Explain with example

[D]

Write the features of JAVA.

What is the output of the following Java program?

```
1. public class Test
2. {
3.     Test(int a, int b)
4.     {
5.         System.out.println("a = "+a+" b = "+b);
6.     }
7.     Test(int a, float b)
8.     {
9.         System.out.println("a = "+a+" b = "+b);
10.    }
11.    public static void main (String args[])
12.    {
13.        byte a = 10;
14.        byte b = 15;
15.        Test test = new Test(a,b);
16.    }
17. }
```

*B = 10
b = 15*

2. [A] i) What is the output of the following Java program?

```
1. class Test
2. {
3.     public static void main (String args[])
4.     {
5.         System.out.println(10 + 20 + "JavaPoint");
6.         System.out.println("JavaPoint" + 10 + 20);
7.     }
8. }
```

ii) What is the output of the following Java program?

```
1. class Test
2. {
3.     public static void main (String args[])
4.     {
5.         for(int i=0; 0; i++)
6.         {
7.             System.out.println("Hello JavaPoint");
8.         }
9.     }
10. }
```

2+2

[B] Write a program in Java to print the Floyd's Triangle.

```
Test Data
Input number of rows: 5
Expected Output:
```

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
```

2+2

[C] i) What is y after the following switch statement is executed? Rewrite the code using an If-else statement.

```
x = 3; y = 3;
switch(x+3) {
    case 6: y = 1;
    default: y += 1;
}
```

ii) Fill in the blanks in each of the following statements:

a) Each class declaration that begins with keyword _____ must be stored in a file that has exactly the same name as the class and ends with the .java filename extension.

b) Keyword _____ in a class declaration is followed immediately by the class' s name.

c) Keyword _____ requests memory from the system to store an object, then calls the corresponding class' s constructor to initialize the object.

d) Each parameter must specify both a(n) _____ and a(n) _____.

[D] Write a Java program that accepts three numbers and prints "All numbers are equal" if all three numbers are equal, "All numbers are different" if all three numbers are different and "Neither all are equal or different" otherwise.

3

Test Data

Input first number: 2564

Input second number: 3526

Input third number: 2456

3 [A] Find the error in each of the following program segments. Explain how to correct the error.

a) void g()
 {
 System.out.println("Inside method g");
 }

b) int sum(int x, int y)
 {
 int result;

 result = x + y;
 }

c) void f(float a);
 {
 float a;
 System.out.println(a);
 }

d) void product()
 {
 init a = 6, b = 5, c = 4, result;
 result = a * b * c;
 System.out.printf("Result is %d\n", result);
 }

e) void l(float a);
 {
 float a;
 System.out.println(a);
 }

f) void l(float a);
 {
 float a;
 System.out.println(a);
 }

g) void l(float a);
 {
 float a;
 System.out.println(a);
 }

h) void l(float a);
 {
 float a;
 System.out.println(a);
 }

i) void l(float a);
 {
 float a;
 System.out.println(a);
 }

j) void l(float a);
 {
 float a;
 System.out.println(a);
 }

k) void l(float a);
 {
 float a;
 System.out.println(a);
 }

l) void l(float a);
 {
 float a;
 System.out.println(a);
 }

m) void l(float a);
 {
 float a;
 System.out.println(a);
 }

n) void l(float a);
 {
 float a;
 System.out.println(a);
 }

o) void l(float a);
 {
 float a;
 System.out.println(a);
 }

p) void l(float a);
 {
 float a;
 System.out.println(a);
 }

q) void l(float a);
 {
 float a;
 System.out.println(a);
 }

r) void l(float a);
 {
 float a;
 System.out.println(a);
 }

s) void l(float a);
 {
 float a;
 System.out.println(a);
 }

t) void l(float a);
 {
 float a;
 System.out.println(a);
 }

u) void l(float a);
 {
 float a;
 System.out.println(a);
 }

v) void l(float a);
 {
 float a;
 System.out.println(a);
 }

w) void l(float a);
 {
 float a;
 System.out.println(a);
 }

x) void l(float a);
 {
 float a;
 System.out.println(a);
 }

y) void l(float a);
 {
 float a;
 System.out.println(a);
 }

z) void l(float a);
 {
 float a;
 System.out.println(a);
 }

aa) void l(float a);
 {
 float a;
 System.out.println(a);
 }

ab) void l(float a);
 {
 float a;
 System.out.println(a);
 }

ac) void l(float a);
 {
 float a;
 System.out.println(a);
 }

ad) void l(float a);
 {
 float a;
 System.out.println(a);
 }

ae) void l(float a);
 {
 float a;
 System.out.println(a);
 }

af) void l(float a);
 {
 float a;
 System.out.println(a);
 }

ag) void l(float a);
 {
 float a;
 System.out.println(a);
 }

ah) void l(float a);
 {
 float a;
 System.out.println(a);
 }

ai) void l(float a);
 {
 float a;
 System.out.println(a);
 }

aj) void l(float a);
 {
 float a;
 System.out.println(a);
 }

ak) void l(float a);
 {
 float a;
 System.out.println(a);
 }