Patuakhali Science and Technology University

Faculty of Computer Science and Engineering

| Final Examination of B. Sc. Engineering in CSE Level: 1 Semester: II Session: 2020-2021 | | | |
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| **Course Code**  CCE-121 | **Course Title**  Object Oriented Programming | **July December** 2021 | **Credit**: 03  **Time**: 03 Hr  **Marks:** 70 |
| Answer any 05 out of 06 Questions (Split answers are highly discouraged) | | |

Dept. of Computer and Communication Engineering

| 1 | [A] | Fill in the blanks in each of the following statements:i) If a class declares constructors, the compiler will not create a--------ii) The public methods of a class are also known as the class’s ----- or ---- iii) Lists and tables of values can be stored in ------ and ----- .  iv) The number used to refer to a particular array element is called the elements -------.  v) A variable known only within the method in which it’s declared is called a-------.  vi) 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 -------.  vii) Typically, -------- statements are used for counter-controlled repetition and ------ statements for sentinel-controlled repetition.  viii) Methods that perform common tasks and do not require objects are called  methods-----. | | | 0.5\*8  =4 |
| --- | --- | --- | --- | --- | --- |
|  | [B] | Write a Java statement or a set of Java statements to accomplish each of the following tasks:  a) Sum the odd integers between 1 and 99, using a for statement. Assume that the integer variables sum and count have been declared.  b) 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.  c) Repeat part (c), using a for statement. | | | 3 |
|  | [C] | i) What gives Java its 'write once and run anywhere' nature?ii) What happens at runtime during Java compilation?iii) Can you save a Java source file by another name than the class name?iv) Can you have multiple classes in a java source file? | | | 4 |
|  | [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. | | | 3 |
|  |  |  | | |  |
| 2 | [A] | What are the various access specifiers in Java? Write an example of public access modifier. | | | 4 |
|  | [B] | Write the rules of Constructor. What is the purpose of a default constructor? Explain with example | | | 4 |
|  | [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);  } } | | ii)  class Test  {  int i; }  public class Main  {  public static void main (String args[])  {  Test test = new Test();  System.out.println(test.i);  } }  iii)  class Test  {  public static void main (String args[])  {  for(int i=0; 0; i++)  {  System.out.println("Hello PSTU CSE");  } } } | 3 |
|  | [D] | Write a Java program to print a pyramid using star pattern. Number of rows input from keyboard. | | | 3 |
|  |  |  | | |  |
| 3 | [A] | What is the static variable? Explain a java program with and without static variable. | | | 3 |
|  | [B] | i) What is the difference between static (class) method and instance method?ii) What are the main uses of this keyword? | | | 3 |
|  | [C] | Define Object and Class. Write Object and Class Example: main outside the class and main within the class | | | 4 |
|  | [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 |
|  |  |  | | |  |
| 4 | [A] | Differentiate between the **throw** and **throws** keyword. | | | 3 |
|  | [B] | “Aggregation represents HAS-A relationship.”-explain with example. | | | 3 |
|  | [C] | Is it possible to make any classread-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 inheritance 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 |
| 1. i) class Dog{ 2. public static void main(String args[]){ 3. Dog d=null; 4. System.out.println(d instanceof Dog);   }  } | 1. ii) class A{ 2. protected void msg(){System.out.println("Hello java");}} 3. public class Simple extends A{ 4. void msg(){System.out.println("Hello java");} 5. public static void main(String args[]){ 6. Simple obj=new Simple(); 7. obj.msg();  }} | |
| 1. iii)public class JavaExceptionExample{ 2. public static void main(String args[]){     try{ 3. int data=100/0; 4. }catch(ArithmeticException e){System.out.println(e);} 5. System.out.println("rest of the code..."); 6. }  } | 1. iv)class Animal{ 2. void eat(){System.out.println("eating...");}  } 3. class Dog extends Animal{ 4. void bark(){System.out.println("barking...");}  } 5. class Cat extends Animal{ 6. void meow(){System.out.println("meowing...");}  }   class TestInheritance3{  public static void main(String args[]){  Cat c=new Cat();  c.meow();  c.eat();  c.bark();}} | |
|  | [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 |