Q.2 i. Explain why Java is platform independent? **2**
ii. Differentiate widening and narrowing conversions with example? **3**
iii. What is array? Write a program to remove duplicate element in array? **5**
OR iv. Explain multi-dimensional array? Write a program to find multiplication of two matrices of n*m. **5**

Q.3 i. Write difference between Java package and C/C++ header file? **2**
ii. Explain the importance of garbage collection in Java and how it is achieved? **3**
iii. How inheritance provide code reusability? Write a program to create a base class Teacher and a derived class ProgrammingTeacher. Class ProgrammingTeacher extends the designation, collegename and work() method from base class, and in derived class declare the totalexperience and showexperience() methods. Create an object of derived class to call the all properties? **5**
OR iv. What is interface? Write a program to create an interface of Shape and declare area, perimeter datamember and showArea(), showPerimeter() method. Implements Shape interface in Circle and Rectangle class to calculate area and perimeter of them. Create an object of derived classes to call the all properties? **5**

Q.4 i. Why string class is known as immutable class? Explain with example? **2**
ii. Explain stringbuffer class constructors in detail? **3**
iii. Write a program to print all possible substrings from input string? **5**
OR iv. Explain following stringbuffer methods with example: **5**
(a) reverse() (b) append() (c) delete() (d) toString() (e) insert()

Q.5 i. How JVM propagate exception in program explain with example? **2**
ii. Explain life cycle of thread class? **3**
iii. Write a program for nested try-catch to handle the exceptions? **5**
OR iv. What is meant by priority of a thread? Which are the three constants associated with thread priorities? With the help of a sample program, explain the setting and getting of thread priorities. **5**

Q.6 i. How many types of stream based I/O possible in Java? **2**
ii. What are different types of layout in AWT package? **3**
iii. Write a program to count the number of lines in a file and then append “L” at the end of the file. Here L is the total number of lines in a file. **5**
OR iv. Write short notes on following: **5**
(a) Frame class (b) Applet class (c) Graphics class methods.

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Enrollment No.....

Faculty of Engineering

End Sem (Even) Examination May-2019

CS3CO08 Computer Programming – II

Programme: B.Tech. Branch/Specialisation: CSE

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1 i. Default value of character data type in Java Programming is __. **1**
(a) '\u0000' (b) Undefined (c) Null (d) 0

ii. What would be the output of following program? **1**

```
class Check {
   public static void main (String[] args) {
      int a[] = {11, 21, 31}; int b[] = {11, 21, 31};
      if (a == b)
         System.out.println("Equal");
      else
         System.out.println("Not Equal");
   } }
```

(a) Equal (b) Not Equal
(c) Runtime error (d) Compile time error

iii. **1**

```
class Base {
   void show() {
     System.out.println("Base show() called");
   } }
class Derived extends Base {
   void show() {
     System.out.println("Derived show() called");
   } }
class Main {
   public static void main(String[] args) {
      Base b = new Derived();
      b.show();
   } }
```

(a) Base show() called (b) Derived show() called
(c) Incompatible type Error (d) Exception in program

P.T.O.

iv. A class Course is define in a package com.javapack. Given that the physical location of the corresponding class file is /mycode/com/javapack/Course.class and execution take place within the mycode directory, which of the following lines of code, when at _____, will import the Course class into the class MyCourse? **1**

(a) Import com.javapack.Course; (b) Import mycode.com.javapack.Course;
(c) Import com.javapack.course; (d) Import mycode.com.javapack.*;

v. What will be the result of attempting to compile and run the following code? **1**

```
class MyClass {
  public static void main(String[] args) {
     String str1 = "str1"; String str2 = "str2"; String str3 = "str3";
     str1.concat(str2);
     System.out.println(str3.concat(str1));
  } }
```

Select the one correct answer.

(a) The code will fail to compile because the expression str3.concat(str1) will not result in a valid argument for the println() method.
(b) The program will print str3str1str2, when run.
(c) The program will print str3, when run.
(d) The program will print str3str1, when run.

vi. What is the output of this program? **1**

```
class output {
   public static void main(String args[]){
     StringBuffer s1 = new StringBuffer("Hello World");
     s1.insert(6 , "Good ");
     s1.append("null");
     System.out.println(s1);
   }}
```

(a) HelloGoodWorldnull (b) Hello Good World null
(c) HelloGood Worldnull (d) Hello Good Worldnull

vii. **1**

```
class expdemo {
 public static void main(String ar[]) {
  int a=10,b=0,c=0,e=0;  float d=0.0f;
  c=a+b;
  System.out.println(c);
  try {
   d=(float)a/b;
  }
catch(Exception exp) {
```



```
      System.out.println(exp);
  }
  System.out.println(d);
  e=a*b;
  System.out.println(e);
 }}
```

(a) 10 Infinity 0
(b) 10 java.lang.ArithmeticException: / by zero Infinity 0
(c) 10 java.lang.ArithmeticException: / by zero 0
(d) 10 0.0 0

viii. **1**

```
class MyThread extends Thread {
  MyThread() {
      System.out.print(" MyThread");
  }
  public void run() {
      System.out.print(" bar");
  }
  public void run(String s) {
      System.out.print(" baz");
  }}
class TestThreads {
  public static void main (String [] args) {
    Thread t = new MyThread() {
     public void run() {
      System.out.print(" foo");
     }};
   t.start();
  }}
```

What is the result?

(a) foo (b) MyThread foo (c) MyThread bar foo (d) Compilation fails

ix. Which of these is method for testing whether the specified element is a file or a directory in file class? **1**

(a) IsFile() (b) isFile() (c) Isfile() (d) isfile()

x. The following are the advantages of _____. **1**

I. It is lightweight.
II. It supports pluggable look and feel.
III. It follows MVC (Model View Controller) architecture.

(a) Swing (b) AWT (c) Both (a) and (b) (d) None of these

Marking Scheme
CS3CO08 Computer Programming – II

Q.1	i.	Default value of character data type in Java Programming is __. (a) '\u0000'		**1**
	ii.	What would be the output of following program? (b) Not Equal		**1**
	iii.	class Base { (b) Derived show() called		**1**
	iv.	A class Course is define in a package com.javapack. Given that the physical location of the corresponding class file is /mycode/com/javapack/Course.class and execution take place within the mycode directory, which of the following lines of code, when at _____, will import the Course class into the class MyCourse? (a) Import com.javapack.Course;		**1**
	v.	What will be the result of attempting to compile and run the following code? (d) The program will print str3str1, when run.		**1**
	vi.	What is the output of this program? (d) Hello Good Worldnull		**1**
	vii.	class expdemo { (a) 10 Infinity 0		**1**
	viii.	class MyThread extends Thread { (b) MyThread foo		**1**
	ix.	Which of these is method for testing whether the specified element is a file or a directory in file class? (b) isFile()		**1**
	x.	The following are the advantages of _____. (a) Swing		**1**
Q.2	i.	Java is platform independent		**2**
	ii.	Differentiate widening and narrowing conversions with example		**3**
		At least two difference 1 mark for each (1 mark * 2)	2 marks	
		Example	1 mark	
	iii.	Definition of array	1 mark	**5**
		Correct program	4 marks	
OR	iv.	Explanation of multi-dimensional array	1 mark	**5**
		Correct program	4 marks.	
Q.3	i.	Difference between Java package and C/C++ header file		**2**
		At least four difference 0.5 mark for each	(0.5 mark * 4)	
	ii.	Importance of garbage collection	1 mark	**3**
		Method for achieved GC	2 marks	
	iii.	Code reusability	1 mark	**5**
		Correct program	4 marks	
OR	iv.	Definition of interface	1 mark	**5**
		Correct program	4 marks	
Q.4	i.	String object can't be modified	1 mark	**2**
		Example	1 mark	
	ii.	Stringbuffer class constructors		**3**
		At least three constructor 1 mark for each	(1 mark * 3)	
	iii.	Program to print all possible substrings from input string Stepwise marking		**5**
OR	iv.	Explain following stringbuffer methods with example: 1 mark for each method	(1 mark * 5)	**5**
Q.5	i.	For exception propagation with the help of throw		**2**
	ii.	Life cycle of thread class		**3**
	iii.	Program for nested try-catch to handle the exceptions Stepwise marking		**5**
OR	iv.	Priority of a thread	1 mark	**5**
		Three constants	1 mark	
		Correct program	3 marks	
Q.6	i.	Types of stream based I/O possible in Java		**2**
		1 mark for each type	(1 mark * 2)	
	ii.	Types of layout in AWT package		**3**
		1 mark for each layout	(1 mark * 3)	
	iii.	Program to count the number of lines	4 marks	**5**
		Append total number of lines in file	1 mark	
OR	iv.	Write short notes on following:		**5**
		(a) Frame class	1.5 marks	
		(b) Applet class	1.5 marks	
		(c) Graphics class methods.	2 marks	

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