			B.TECH/IT	C/4 TH SEM/INFO 2204/2019		
B.TECH/IT/4 TH SEM/INFO 2204/2019 OBJECT ORIENTED PROGRAMMING			(v)	Which class does not override the equals() methods, inheriting them directly from class Object?		
•	FO 2204)	MMING		(a) java.lang.String (c) java.lang.StringBuffer	(b) java.lang.Double (d) java.lang.Character.	
Time Allotted : 3 hrsFull Marks : 70			(vi)			
Figures out of the right margin indicate full marks.			(vii)	(a) x.delete() (c) Runtime.getRuntime().gc()	(b) x.finalize()	
Candidates are required to answer Group A and <u>any 5 (five)</u> from Group B to E, takin <u>g at least one</u> from each group.				 (d) Only the garbage collection system can destroy an object. (vii) Which of these is not a correct statement? (a) Every class containing abstract method must be declared abstract (b) Abstract class defines only the structure of the class not its implementation (c) Abstract class can be initiated by new operator (d) Abstract class can be inherited. 		
Candidates are required to give answer in their own words as far as practicable.			(vii)			
Group – A (Multiple Choice Type Questions)			(viii)		ends two interfaces and both have a	
 Choose the correct alternative for (i) Consider the Java code: 		10 × 1 = 10	(***)	method with same name and signature? (a) Runtime error (c) Code runs successfully (d) First called method is executed succ	, (b) Compile time error	
<pre>class Super { public int index = 1; } class App extends Super { public App(int index) { index = index; } public static void main(String args[]) { App myApp = new App(10); System.out.println(myApp.index); } }</pre>			(ix)	 Which are the common security restrictions in applets? (a) Applets can't load libraries or define native methods (b) An applet can't read every system property (c) Applets can play sounds (d) Both A & B. 		
} } What will be the output? (a) 0 (b) 10	(c) 1	(d) Compilation time error.	(x)	<pre>Find which one is correct for the follow public void test(boolean a, boolean b) { if (a) { System.out.println("A"); } }</pre>		
 (ii) What will be the updated capacity of StringBuffer object buf after executing the following code? StringBuffer sb=new StringBuffer(30); sb.ensureCapacity(50); (a) 50 (b) 62 (c) 30 (d) 102. 				<pre>} else if (a && b) { System.out.println("A && B"); } else { if (!b) { System.out.println("!B"); } else { System.out.println("None"); } }} (a) If a and b both are true, then the output is "A && B".</pre>		
 (iii) Which method is used to change the name of a thread? (a) public String getName() (b) public void setName(String name) (c) public void getName() (d) public String setName(String name). 						
(iv) Which of the following meth collector?(a) finally (b) final	od is executed p	orior to execution of garbage (d) finalize.		(b) If a is true and b is false, then the output is "!B".(c) If a is false and b is true, then the output is "None".(d) If a and b both are false, then the output is "None".		

Group - B

- 2. (a) What is association? With the help of a Java program briefly explain association.
- (b) Compare between the concepts aggregation and association with proper example.
- (c) What do you mean by meta class?

(2+2) + (3+3) + 2 = 12

 $2 \times 3 + ((2 + 2) + 2) = 12$

- 3.(a) Explain with code example how Java implements the concepts of generalization, specialization and abstraction.
- (b) Why main method should be declared as public and static in Java? If we use default access specifier instead of public for main method, then what will happen? Support your answer with proper justification.

Group – C

- 4. (a) Is Java arrays are potentially advantageous over array concept of C? Justify your answer.
- (b) Predict the outputs of the following codes. Explain the reason(s) behind your answers: (report compilation time error and run time error before finding out outputs; if code seems error-free, then only discuss the output)

(i)	(ii)	(iii)
class TestApp {	class TestApp {	class TestApp {
protected int x, y;	int i[] = { 0 };	public static void
}	public static void main(String	main(String args[]) {
class Main {	args[]) {	int bits;
public static void	int i[] = { 1 };	bits = -3 >> 1;
main(String args[]) {	alter(i);	bits = bits >>> 2;
TestApp app = new TestApp();	System.out.println(i[0]); }	bits = bits << 1;
System.out.println(app.x + " "	public static void alter(int i[]) {	System.out.println(bits);
+ app.y);	int j[] = { 2 };	}
}	i = j;	}
}	System.out.print(i[0]+" ");	
	}}	
		$3 + (3 \times 3) = 12$

- 5. (a) Create an abstract class Accounts with the following details: Data Members:
 - 1. balance
 - 2. accountNumber
 - 3. accountHolderName
 - 4. address
 - Methods:

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- 1. withdrawl()-abstract
- 2. deposit()-abstract

3. display() to show the balance of the account number.

Create a subclass of this class SavingsAccount and add the following details:

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- Data Members: (a) rateOfInterest Methods: (a) calculateAmount().
- (b) Define interface. Design an interface named Stack with the following methods:1. Push and Pop elements from the stack.
 - 2. Check whether the stack is empty or not. Implement the stack with the help of arrays. Test this interface by inheriting it and its subclass.

$$5 + (3 + 4) = 12$$

Group - D

- 6. (a) Define throw, throws, finally in Java with example.
 - (b) Write a Java program to merge the content of two files in a third file. Differentiate between checked and unchecked exception.

```
(2+2+2) + (4+2) = 12
```

7. (a) What will be the output of following program? Justify your answer.

```
class Demo
{
    void show(){}
}
class Demo2 extends Demo
{
    void show() throws IllegalAccessException,ArithmeticException
{
        System.out.println("In Demo1 Show");
    }
    public static void main(String args[]){
        try{
            Demo2 d = new Demo2();
            d.show();
        }
    Catch(Exception e){}
}
```

(b) Create an user defined exception named Check Argument to check the number of arguments passed through command line. If the number of arguments is less than five, throw the CheckArgumentexception, else print the addition of all five numbers.

5 + 7 = 12

4

Group – E

- 8. (a) Explain the difference between sleeping, waiting and blocked states of Java thread.
 - (b) Why thread sleep() and yield() methods are static?
 - (c) Which is more preferred synchronized method or synchronized block?
 - (d) Write a program that takes a positive integer n from the command line and creates exactly n threads that print out their own name in format (for ith thread):Hello, I am Thread #i

3+2+2+5=12

- 9. (a) Write a Java swing program which will accept two value in text boxes and display addition result in third text box.
- (b) Draw and explain thread life cycle model. What is the use of synchronized keyword-Explain?
- (c) With code example explain how to pass parameters from web documents to applet?

4 + (4 + 2) + 2 = 12