Dezyne École College

Bachelor of Computer Applications (BCA)

Second Year-3rd Semester Java Programming

Probable Question for Java Programming

Unit -1

Q1. What are the eight primitive data types in Java with their size?

Q2. Write a code snippet to demonstrate pre-increment and post-increment operators.

Q3. What is the difference between while loop and do-while loop?

Q4. Write code to convert int to double and double to int using casting.

Q5. What is the purpose of new operator in object creation?

Q6. Write syntax for declaring and initializing a character array.

Q7. What are reference variables and how are they assigned?

Q8. Write code to input a character from keyboard using Scanner.

Q9. What is the difference between & and && operators?

Q10. Write code to find length of an array using length member.

Q11. Write a program to demonstrate nested if statements for age categorization.

Q12. Create a program using enhanced for loop to sum all elements in an array.

Q13. Write a class Rectangle with default constructor and area calculation method.

Q14. Create a program using switch statement for days of the week.

Q15. Write code to demonstrate bitwise operators on two integers.

Q16. Write a complete program using nested for loops to print multiplication table from 1 to 5.

Q17. Create a Student class with parameterized constructor, calculate percentage method and demonstrate with multiple objects.

Q18. Write a program to implement 2D array operations including matrix addition and finding maximum element.

Q19. Create a menu-driven calculator using nested switch statements with break and continue.

Q20. Write a program demonstrating alternative array declaration syntax, array references assignment and various loop types to traverse arrays.

Q21. Predict the output:

```
public class Test {
        public static void main(String[] args) {
        int x = 5;
        System.out.println(x++ + ++x + x--);
        System.out.println(x);
  } }
```

Q22. Predict the output:

```
public class Test {
        public static void main(String[] args) {
        int a = 10, b= 20;
        boolean result = a > 5 && b++ > 15;
        System.out.println(result + " " + b);
        a = 3;
        result = a > 5 && b++ > 15;
        System.out.println(result + " " + b);
 } }
```

Q23. Generate a spiral number pattern:

```
1   2   3   4
12  13  14  5
11  16  15  6
10  9   8   7
```

Q24. Print a Floyd's triangle
with alternating 0s and 1s:

```
1
01
101
0101
10101
```

Q25. Generate wave number pattern:

```
1           5           9
  2       4     6      8
     3            7
```

Unit -2

Q1. What is the difference between String, StringBuffer and StringBuilder classes?

Q2. Write code to create a String using three different constructors.

Q3. What is method overloading and write syntax for overloaded methods?

Q4. Write code to find length of a string and extract character at index 3.

Q5. What is the difference between equals() and == operator for strings?

Q6. Write code to demonstrate indexOf() and lastIndexOf() methods.

Q7. What is inheritance and write syntax for extending a class?

Q8. Write code to convert string to uppercase and lowercase.

Q9. What is the purpose of super keyword in inheritance?

Q10. Write syntax for creating an interface with one method declaration.

Q11. Write a program to demonstrate string comparison using compareTo() and equalsIgnoreCase() methods.

Q12. Create a class with overloaded constructors and demonstrate constructor overloading.

Q13. Write a program to implement factorial calculation using recursion.

Q14. Create a parent class Vehicle and child class Car demonstrating inheritance with member access.

Q15. Write a program to reverse words in a sentence without using built-in reverse methods:

Input: "Java Programming Language"

Output: "avaJ gnimmargorP eugaugnaL"

Q16. Create a program to find all palindromic substrings in a given string:

Input: "abccba"

Output: a, b, c, c, b, a, cc, bccb, abccba

Q17. Write a program to compress a string using character counts:

Input: "aaabbcccc"

Output: "a3b2c4"

Input: "abc"

Output: "abc" (no compression if not beneficial)

Q18. Write a program using StringBuffer to append, insert and delete characters.

Q19. Write a complete program demonstrating all String methods including substring, charAt, contains, replace and string concatenation.

Q20. Create a multilevel inheritance hierarchy with Animal -> Mammal -> Dog classes, use super keyword to call superclass constructors and methods.

Q21. Write a program to demonstrate method overloading with different parameter types, number of parameters and recursive method implementation.

Q22. Create an interface Drawable with draw() method, implement it in Circle and Rectangle classes, demonstrate interface references and multiple interface implementation.

Q23. Design a complete program showing interface extension, implementing multiple interfaces in a single class, and using super to access superclass members in inheritance.

Q24. Predict the output:

```
class Test {
      Test(int x) {
      System.out.print("Int: " + x + " ");
    }
    Test(double x) {
      System.out.print("Double: " + x + " ");
    }
    Test(int x, int y) {        this(x + y);
      System.out.print("Sum: " + (x+y) + " ");
    }
public static void main(String[] args) {
new Test(5, 10);
new Test(3.5);
}}
```

Q25. Predict the output:

```
public class Test {
  public static void main(String[] args) {StringBuffer sb = new  StringBuffer("Java");
  change(sb);
  System.out.println(sb);
  String s = "Java";
  change(s);
     System.out.println(s);
  }
  static void change(StringBuffer sb) {sb.append("Programming");
  }
```

```
static void change(String s) {
    s = s + " Programming";
} }
```

Unit – 3

Q1. What is a package in Java and write syntax for creating a package?

Q2. Write code to import specific class and entire package using import statement.

Q3. What is the difference between import and static import?

Q4. Write the hierarchy of Exception classes in Java.

Q5. Write syntax for try-catch block with multiple catch clauses.

Q6. What is the difference between Thread class and Runnable interface?

Q7. Write code to create a thread using Thread class constructor.

Q8. What are thread priorities and write code to set thread priority?

Q9. Write syntax for synchronized method and synchronized block.

Q10. What is the purpose of wait(), notify() and notifyAll() methods?

Q11. Write a program demonstrating package creation with member access modifiers and importing.

Q12. Create a program with nested try-catch blocks and demonstrate exception propagation.

Q13. Write a program to create multiple threads using Runnable interface and execute them.

Q14. Demonstrate throwing custom exception using throw and throws keywords.

Q15. Write a program showing thread synchronization using synchronized keyword.

Q16. Create a complete package structure with classes, demonstrate different access levels, static import usage and package member access.

Q17. Write a comprehensive exception handling program with multiple catch blocks, finally block, catching subclass exceptions and nested try statements.

Q18. Implement a multithreading program creating multiple threads, setting priorities, determining thread completion and demonstrating thread lifecycle.

Q19. Create a producer-consumer problem solution using thread communication methods wait(), notify() and notifyAll() with proper synchronization.

Q20. Design a complete multithreading application showing thread creation both ways, synchronization, thread communication, and demonstrate suspending, resuming thread operations.

Q21. Predict the output:

```
public class Test extends Thread {
private String name;
```

```
Test(String name) {
    this.name = name;
 }
public void run() {
for(int i = 1; i <= 3; i++) {
      System.out.print(name + i + " ");
      try {
            Thread.sleep(100);
      } catch(InterruptedException e) {
        }
      }
  }
  public static void main(String[] args) {
      Test t1 = new Test("A");
      Test t2 = new Test("B");
      t1.start();
      t2.start();
  } }
```

Q22. Predict the output:

```
public class Test {
  public static void main(String[] args) {
      try {
          method1();
      }
      catch(Exception e) {
         System.out.println("Main: " + e.getMessage());
      } }
   static void method1() throws Exception {
      try {
          method2();
      }
      catch(RuntimeException e) {
```

```
        System.out.println("Method1: " + e.getMessage());          throw new
Exception("From Method1");
      }
   }
   static void method2() {       throw new RuntimeException("From
Method2");
   } }
```

Total No. of Pages: 02 [Total No. of Questions: 10]

1693

BCA (Part-II) Examination, 2023
Paper - BCA - 204
Java Programming

Duration of Examination: 3 Hours *Max. Marks: 50*
परीक्षा की अवधि: 3 घण्टा *पूर्णांक: 50*

Instructions to the Candidates:
परीक्षार्थी के लिए निर्देश:-

Part-A (Compulsory)

Answer all ten questions (upto 20 words each). Each question carries equal marks. *(Marks-15)*

Part-B (Compulsory)

Answer all five questions (upto 50 words each). Each question carries equal marks. *(Marks-15)*

Part-C

Answer all three questions (upto 400 words each). Three question of 7, 7 & 6 marks. *(Marks-20)*

Part-A (Compulsory)

1- Can you write a java class that could be used as an applet as well as an application?

2- What would you use to compare two string variable- the operator = = or the method equals ( )?

3- What can go wrong if you replace & & with & in the following code:
string a = null ; if (a ! = null & & a . length ( ) > 10) {.....}

4- What is class. forname ( ) does and how it is useful?

5- There are two classes A and B. The class B need to inform a class A when some important event has happened. What java technique would you use to implement it.

6- What is meant by Binding, Static Binding, Dynamic Binding?

7- How does a try statement determine which catch clause should be used to handle an exception?

8- What happens when you invoke a thread's interrupt method while it is sleeping or waiting?

9- In the below example, how many string object are created?
String S 1 = "I am Java Expert";
String S 2 = "I am Python Expert";
String S 3 = "I am Java Expert";

1693

10- What would be the output of following piece of code? Public class operator Example {

Public static void Main string args [ ]) {

int x=4;

system . out . print In (x + +);

}

}

Part-B (Compulsory)

11- How to convert char to string in Java using value of ( ) method?

12- Explain the following line used under java program: Public static void main (string orgs [ ])

13- Explain about the util package.

14- What is constructor? Explain it with an example.

15- What are the restrictions imposed on java applets?

Part-C

Unit-I

16- (a) When dealing with very small or very large numbers , what steps would you take to improve the accuracy of the calculation?

(b) What are symbolic constents? How are they useful?

OR

(a) What is an array? Why arrays are easier to use compared to bunch of related variable?

(b) Write a program to transportation of a Matrix using aray copy command.

Unit-II

17- Briefly Explain following.

(i) Final and this keyword (ii) overloading methods & constructors.

OR

Is there as alternative solution for inheritance? If so explain the advantages and disadvantages of it.

Unit-III

18- (a) With the help of example, explain multirithreading by extending thread class.

(b) Implementing runnable interface and extending thread, which method you prepare for multithreading and why.

OR

What are the methods supported by the following interfaces. Explain each of them.

(i) Action Listener interface. (ii) Text Listener Interface.

* * * * *

3307 Roll No. 289623

B.C.A. (Part-II) EXAMINATION, 2019

B.C.A. – 204

JAVA PROGRAMMING

Time allowed: Three Hours **Maximum Marks: 50**

PART – A (Compulsory) *{Marks: 15}*

Answer all ten questions (50 words each).

Each question carries equal marks.

PART – B (Compulsory) *{Marks: 15}*

Answer all five questions (50 words each).

Each question carries equal marks.

PART – C *{Marks: 20}*

Answer any three questions (400 words each),

selecting one question from each unit.

Three questions of 7, 7 & 6 marks.

Part – A

Q.1 What is bytecode?

Q.2 Define the term run time polymorphism.

Q.3 List various types of inheritance.

Q.4 Write the use of 'THIS' Keyword.

Q.5 Define command line argument.

Q.6 Explain the Garbage Collection.

Q.7 Describe the charAt() method related to string.

Q.8 Describe the JVM and Java API.

Q.9 Define Access specifiers.

Q.10 What is synchronization?

Part – B

Q.11 Write the difference between String and StringTokenizer.

Explain through example.

Q.12 Define bitwise and shiftwise operator with example.

Q.13 Distinguish between Final, Finally and Finalize.

Q.14 Explain Legacy Classes.

Q.15 Explain the Passing Parameters to Applet.

[3307]

Part – C

Unit – I

Q.16 (a) Define Graphics class. Explain any five methods with suitable example.

(b) Explain life cycle of Applet with example.

OR

What is Thread? Write the different ways for creating thread. Explain the thread properties with example.

Unit – II

Q.17 What is Package? How a user defined Package is created? Explain with example.

OR

Create a program which explain Vector and Stack class.

Unit – III

Q.18 Explain the following with example –

(a) JSlider

(b) JTabbedPane

OR

Write a program which show four Buttons on a screen (Red, Green, Blue and Exit), which change the Background color according to click on Button and when user press the Exit Button the window would be closed.

Roll No.....

B

2236

B.C.A. (Part II) EXAMINATION, 2018

JAVA PROGRAMMING

Paper-XIII

Time allowed : Three hours

Maximum marks : 50

Part-A (Compulsory) {Marks : 15}

Answer all ten questions (50 words each). Each question carries equal marks.

Part-B (Compulsory) {Marks : 15}

Answer all five questions (50 words each). Each question carries equal marks.

Part-C {Marks : 20}

Answer any three questions (400 words each), selecting one question from each unit. Three questions of 7, 7 & 6 marks.

PTO

Part-A (Compulsory) $10 \times 1\frac{1}{2}$

1. What is the base class of all java classes ?

2. What is return type of constructor ?

3. Why java is platform independent language ?

4. What is final variable ?

5. What is the range of long data type ?

6. What will be the output of the following code :

```
int a = 10;

System,out,println (a >>2);
```

7. What is full form of CORBA ?

8. How java bean is different from normal java program ?

9. Which operator in java is known as ternary operator ?

10. What is difference between string and string buffer class ?

1600 2 B-2236

Part-B (Compulsory) 5×3

11. What is method overloading ? Explain it with an example.

12. Write a program to create your own exception if the marks entered are less than 0 or greater than 100.

13. Write short note on Dictionary class.

14. What is final class ? How it is useful ?

15. Explain various methods of graphics class.

Part-C

Unit-I

16. Explain life cycle of Thread ? Give an example to explain multithreading concept in java. 7

Or

What is constructor ? Explain various types of contructors with suitable example. 7

Unit-II

17. Write a program in java to create in applet to draw a bar chart for the following data :

Year	Number of Students
2014	50
2015	70
2016	80
2017	60

7

Or

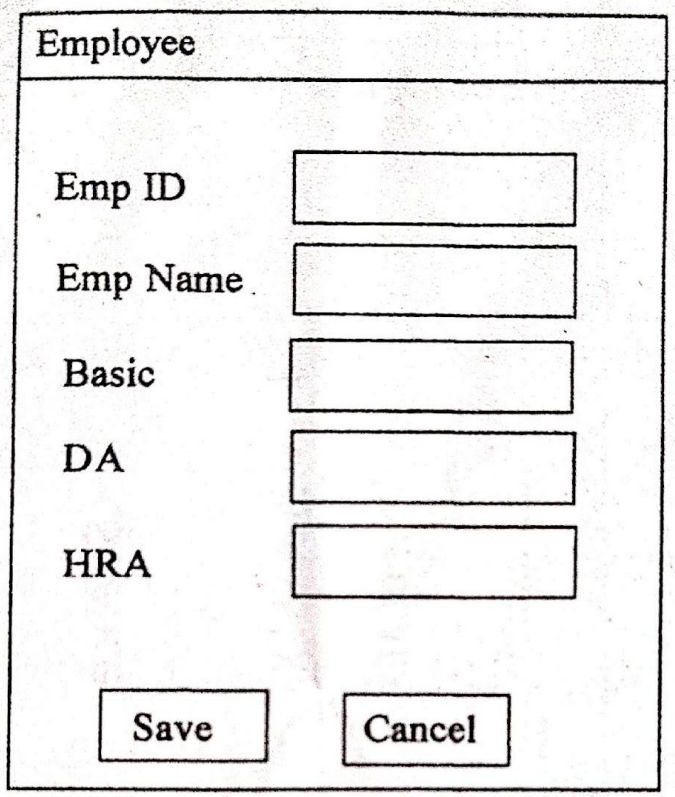
(a) Explain life cycle of thread.

(b) Write a program to create three thread classes and kill the first thread after few steps, forcefully remove the second thread after some iterations from execution of that thread and put the third thread in blocked state for 10 milliseconds. Also explain the output of this program. 7

Unit-III

18. (a) What is JDBC-ODBC Bridge ?

(b) Write a program to design the following form and save the data in database :



6

Or

Write short notes on :

(i) RMI

(ii) CORBA 6

B-2236 5 1600

B.C.A. (Part-II) EXAMINATION, 2017

JAVA PROGRAMMING

Paper – XIII

(BCA – XIII)

Time allowed: Three Hours Maximum Marks: 50

Part – A (Compulsory) *{15 Marks}*

Instructions:

Answer all ten questions (upto 50 words each). Each question carries equal marks.

Part – B (Compulsory) *{15 Marks}*

Instructions:

Answer all five questions (upto 50 words each). Each question carries equal marks.

Part – C *{20 Marks}*

Instructions:

Answer any three questions (upto 400 words each), selecting one question form each unit. Three question of 7, 7 & 6 marks.

Q.1 What are the types of Constructors in JAVA? [1½]

Q.2 What are the data types used in JAVA? [1½]

Q.3 What is multithreading? [1½]

Q.4 What is JDK? [1½]

Q.5 What is an object? [1½]

Q.6 How many types of visibility modes are used in JAVA? [1½]

Q.7 What is an applet ? [1½]

Q.8 What is an exception? [1½]

Q.9 What is the difference between break and continue? [1½]

Q.10 What is multilevel hierarchy in JAVA? [1½]

Part – B (Compulsory)

Q.11 Write five differences between C+ + and JAVA. [3]

Q.12 Explain static member with example. [3]

Q.13 What is the difference between distributed and non-distributed JAVA programs? [3]

Q.14 Write a short note on stack class. [3]

Q.15 Explain JVM. [3]

UNIT – I

Q.16 What is OOP? Explain OOP features in detail. [7]

OR

Q.16 Write a JAVA program to check whether the given number is prime or not. [7]

UNIT – II

Q.17 (i) What is method overriding? Give an example. [4]

(ii) Write a JAVA program for transpose of a matrix. [3]

OR

Q.17 What is CGI? Explain its structure with suitable example. [7]

UNIT – III

Q.18 What is package? How it is created? Explain with example. [6]

OR

Q.18 What is JAVA Beans? What is its architecture? What are advantages of it? [6]
