M.Sc. (Sem.-II) Examination
410
Bio Informatics
May-2017

Time : 3 Hours]

[Max. Marks : 70

BIN 410 Java and Advanced Java

Q1: A Write short notes on   7 Marks

   a. Write a program to input 2 nos using scanner and print the larger of the two.
   b. Features of Java

<div align="center">OR</div>

A: Describe the entry control loops in java.   7 Marks
B: Write a program in Java to input the temperature in Fahrenheit and print its centigrade.
(C = (F – 32) * 5 / 9)   7 Marks

<div align="center">OR</div>

B: Explain switch case in java using an example.   7 Marks
Q2: A Write short notes on: 7 Marks

   a. Operators in java
   b. Conditional operator in java with an example

<div align="center">OR</div>

A: Write a program in java to print the Fibonacci series.   7 Marks
B: Write a program to input a number in Java and print its factorial. 7 Marks

<div align="center">OR</div>

B: Write short notes on a. ++ and – operator b. Relational operators
Q3: A Write short notes the following: 7 Marks

   a. Function overloading
   b. Data hiding using private, protected and public

<div align="center">OR</div>

A: Write short note on types of inheritance   7 Marks
B: Write a program to input a DNA sequence and print its complement. Ensure the user enters a valid DNA String.   7 Marks

<div align="center">OR</div>

B: Write a program in java to create a class Plant with   7 Marks

   a. Data Members:
      a. PlantId integer
      b. PlantCommonname String
      c. Type string
   b. Methods
      a. Get / Set methods for the above m

Q4 A: Write a class to create a class Date   7 Marks

   a. Data Members

<div align="right">(P.T.O)</div>

a. Day integer
b. Month integer
c. Year integer

b. Methods

a. Write a setDate method that takes as parameter day month and year
b. Write a showDate method to display the date
c. Ensure the date entered is valid

OR

A: Write a program to input 10 nos in an array and duplicate it in another array. 7 Marks

B: Write a program to input 2 arrays and compare whether they are same or not. 7 Marks

OR

B: Explain Single Dimension array with example.   7 Marks

Q5: Answer The Following Questions: 14 Marks

1) How many objects and reference variables are created by the following lines of cod?

    Employee emp1, emp2;
    emp1 = new employee( );
    Employee emp3 = new Employee( );

    a) two objects and three reference variables   b) three objects and two reference variables

    c) four objects and two reference variables   d) two objects and two reference variables.

2) Which will declare, construct, and initialize an array?

    a) int[ ] myList = { "1", "2","3" };   b) int [ ] myList = { '5',' 8','2' };
    c) int[ ] myList = { 4, 9, 7, 3 };   d) int [ ] myList[3] = { 4, 3, 7 };

3) A constructor is

    a) A method with the same name as the class it is declared within.
    b) It will create objects.
    c) May be declared as a function or a variable
    d) is a private member of class

4) What is byte code in Java?

    a) The type of code generated by a Java compiler
    b) The type of code generated by a Java Virtual Machine
    c) It is another name for a Java source file
    d) It is the code written within the instance methods of a class

5) What is the meaning of the return data type void?

    a) An empty memory space is returned so that the developers can utilize it.
    b) void returns no data type.
    c) void is not supported in Java
    d) None of the above

6)   class Test
{
  public static void main(String [] args)
  {

```
int x=20;
String sup = (x < 15) ? "small" : "huge";
System.out.println(sup);
}}
```

a)　small　　　b)　tiny

c)　huge　　　d)　Compilation fails

7)　class Test

```
{
  public static void main(String [] args)
  {
    int x= 0;
    int y= 0;
    for (int z = 0; z < 5; z++)
    {
      if (( ++x > 2 ) || (++y > 2))
      {
        x++;
      }
    }
    System.out.println(x + " " + y);
}}
```

a)　5 3　　　b)　8 2

c)　8 3　　　d)　8 5

8)　Which one is a valid declaration of a boolean?

a) boolean b1 = 0;　　b) boolean b2 = 'false';

c) boolean b3 = false;　　　d) boolean b4 = Boolean.false();

9)Fill in the blank :

int x=5, y;

y=____ (use an increment operator)

System.out.println(y); // y should print 6.

10) What is JDK?

11) Write the syntax to create a two dimensional integer array as NAME.

12)int i = 1, j = -1;

```
switch (i)
{
  case 0: j = 1; /* Line 4 */
  case 2: j = 2;
  default: j = 0;
}
System.out.println("j = " + j);
```

a) j = -1　　　　　b) =j = 0

c) j = 1　　　d) Compilation fails.

13) Given :String s="The Class Begins now....";

Write the substring function to show only 'Class'

14) Given :String str="Java is a computer programming language and is easy";

Write the command to show the position of the second 'is'