Part I

A

Answer the following multiple-choice questions.

1) Which of the following statements is valid:

```
A) int number_7;
B) int 7number_7;
C) int /*number$_7;
D) int -number_7;
```

2) When the program runs and gives the incorrect results, this type of errors called:

```
A) Run time error
B) Logic error
C) Compile error
D) all of them
```

3) Which of the following is a comment?

```
A) // this is the first Exam//
B) /* this is the first Exam*/
C) /** this is the first Exam*/
D) all of them
```

4) What is the output of this program?

```
class increment {

        public static void main(String args[])

        {

            double var1 = 1 + 5;

            double var2 = var1 / 4;

            int var3 = 1 + 5;

            int var4 = var3 / 4;

            System.out.print(var2 + " " + var4);

         }

    }
```

```
A) 1    1
B) 0    1
C) 1.5  1
D) 1.5  1.0
```

5) What is the output of this program?

```
class Output {

      public static void main(String args[])

      {

            int x , y;

            x = 10;

            x++;

            --x;

            y = x++;

            System.out.println(x + " " + y);

      }

 }
```

A) 11 11
B) 10 10
C) 11 10
D) 10 11

6) What is the result of compiling and running this program?

```
public class test {
   public static void main(String args[]) {
      int i, j;
      int k = 0;
      j = 2;
      k = j = i = 1;
      System.out.println(k);
   }
  }
```

A) The program does not compile because of the statement k=j=i= 1;
B) The program compiles and runs printing 0.
C) The program compiles and runs printing 1.
D) The program compiles and runs printing 2.

7) The following code is illegal.

```
double d = 187.2;
int j = d;
```

Rewrite the code using an integer cast in the last line so as to make it legal.

A) int j = (int)d;
B) int j = (int)d;

```
C) int j = int (d);
D) int j = int d;
```

8) Suppose a Scanner object, kbReader, has already been created. Which line of code uses kbReader to input a number with "decimal places" from the keyboard and store the result in the variable, frac

```
A) double frac = kbReader.nextDbl( );
B) double frac = kbReader.nextDouble();
C) double frac = kbReader.next();
D) double frac = kbReader.nextInt();
```

9) Which of the following results is correct when evaluating 0%3?

```
  A) Run time error       B) 0        C) 1      D) 3
```

10) Consider the following program:

```
import myLibrary.*;
public class ShowSomeClass
{
// code for the class...
}
```

What is the name of the java file containing this program?

```
A) myLibrary.java
B) ShowSomeClass.java
C) ShowSomeClass
D) ShowSomeClass.class
```

Part II Answer the following questions

1) What is the output of the following lines of code:

```
System.out.println(1+1+1+”7”+1+1+1);
……..
System.out.println((1+1+1)+”7”+1+1+1);
……..
System.out.println(1+1+1+”7”+(1+1+1));
……..
```

2) Identify and fix the errors in the following code (rewrite it a correct form):

```
Public class Equation
   {
      public     void  static   main(String []args)
        {
    int x=5.5;
    double y=x*x
System.out.println(“X= “ + x + “Y = “  y);
                    }
```

……
……
……
……
……
……
……

3) What is the output of this program?

```
class Output {
      public static void main(String args[])
      {
            int a = 1;
            int b = 2;
            int c , d;
            c = ++b;
            d = a++;
            c++;
            b++;
            ++a;
            System.out.println(a + " " + b + "\n" + c);
      }
  }
```

……
……
……
……

4) What will be the value of the integer variable 'ans' after executing each of the following expressions independently?

(a) `ans = 9 / 4 + 2 * 3 / 2 – 5 % 2;` ans =

(b) `ans = 2 / 3 * 3 + 6 * 8 % 3 * 4;` ans =

5) The following program has some errors. Rewrite the program with no errors such that the output must be 8.0 without changing any literal.

```
Public Class ShowErrors
{
      Public static void Main(String[] args) {
      int y = 1.5, int x = y + 2;
      System.out.print(y+ x + 3.5);
}
```

.....
.....
.....
.....
.....
.....

Part III

A. Write an **algorithm** and draw a **flowchart** for the following problem.

A **program** to **read** student **name**, **ID** and **three exams mark (First_exam, Second_exam and Third_exam)**. It then prints the student details (name and ID) and the total mark. Be sure to include plenty of **documentation**!

NOTE:

Total mark = Midterm exam + (Third_exam)/2.

Midterm exam = 20% of First_exam + 30% of Second_exam.

All exams are out of 100.

B. Write a **complete java program** for the problem of part A. Be sure to include plenty of **documentation**!

BELOW IS A SAMPLE OUTPUT. The user input is shown in **bold** numbers:
(Your output may vary from this based on the input values):

```
PLEASE ENTER STUDENT NAME:
Ahmad Abdullah

PLEASE ENTER STUDENT ID:
13124563

PLEASE ENTER STUDENT THREE MARKS:
60
70
55

STUDENT NAME: Ahmad Abdulla
STUDENT  ID: 13124563
STUDENT TOTAL MARKS = 60.5
```