

**SECTION A**

**[40 marks]**

**Answer ALL questions in this section.**

- A1. Evaluate the following integer expressions in Java. [5]
- (a)  $27 / 4$
  - (b)  $5 + 4 * 2 - 1$
  - (c)  $26 \% 4 - 6 * 2 + 5$
  - (d)  $7 \% 3 > 4$
  - (e)  $13 \% 5 != 4 - 3 * 2 + 5$
- A2. Briefly explain the purpose of using the following term, and method. [10]
- (a) `length()`
  - (b) `start()`
  - (c) `final`
  - (d) `drawstring()`
  - (e) `extends`
- A3. (a) Briefly explain what a container object is. [2]
- (b) List any **three** types of container which can be found inside a Java Applet. [3]
- A4. List all the **three** logical operators found inside Java language. [3]
- A5. List and explain the **three** basic constructs of structured programming. [6]

- A6. Write java statement(s) to do the following task.
- (a) Declare a variable money of floating data type, and initialize with the value of 2.5. [2]
  - (b) Declare a TextField name with the size of 30 characters. [2]
  - (c) If the point comes with value above 50 then it will display pass. [2]
  - (d) Increase the variable total by 20 points. [2]
  - (e) Declare an array age to store 50 integers. [2]
- A7. State the syntax for compiling a java source code. [1]

**SECTION B**

**[60 marks]**

**Answer ANY TWO questions in this section.**

**B1.**

**[30 marks]**

- (a) Explain the purpose of the following methods used in a Java program.
- (i) equals() method [2]
  - (ii) toLowerCase() method [2]
  - (iii) concat() method [2]
- (b) Explain clearly each of the following method headers.
- (i) public static void welcome(String a, int b) [3]
  - (ii) public static char checkgrade(int mark) [3]
- (c)
- (i) Declare a class known as Area. Inside this class you need to declare the width, and height of it. [3]
  - (ii) Add inside this class a constructor so that objects are initialized on creation. [3]
  - (iii) Write a statement to create an object square which belongs to Area category. [3]
- (d) Identify the error in each of the following program segments and explain how the error can be corrected. [6]
- ```
public static double xyz(int x, y)
{
average = x+ y/2;
}
```
- (e) Declare a constant LIMIT which holds the value of 255. [3]

**B2.**

**[30 marks]**

- (a) You need to write a java program which make use of while loop to display number from 100 to 10 decremental of 5. [8]
- (b) Given the switch statements below, you need to rewrite it using If statements. [10]

```
switch(x)
{
case 'A'
case 'a' : p= 10;
           break;

case 'b' :
case 'B' : p=5;
           break

case 'R' : p=3;
           break;

default : System.out.println("Invalid x");
}
```

- (c) Write a Java application that reads an integer and determines and prints whether it is a positive, zero or negative number. [12]

**B3.**

**[30 marks]**

- (a) Briefly explain what a Label is. You need to use an example to explain on it. [4]
- (b) List **two** way you can activate an applet. [2]
- (c)
  - (i) Briefly explain what is a Graphics class. [3]
  - (ii) State any **three** methods of it. [3]
- (d) Write a java applet program to display a circle at row 50 and column 150. The width is 100, and the height is 150. Set the background to blue, and the color of the circle to green. [12]
- (e) Write a HTML document that will activate the java applet program written in part (d). [6]

**-END OF PAPER-**