

Section A

[40 marks]

Answer ALL questions in this section.

A1. Write Java statements to accomplish each of the following:

- (a) Declare a variable status to be of type boolean. [2]
- (b) Compare the contents of the variables password with a value of “checking”. [2]
- (c) Assign a float value 44.34 to a variable money. [2]
- (d) Display a message ‘Please try harder’ using a method from the System class. [2]
- (e) Declare a method welcome that does not return a value and has no arguments. [2]

A2. Identify the layout manager, component or method which will perform the following: [6]

- (a) A data type which allows a variable to hold logical value.
- (b) A built-in class that holds text that can be displayed within an applet.
- (c) An operator will allow computer to increase the value of a variable by one.
- (d) A method which allows the user to store the name entered in upper case.
- (e) A window component which allows the user to click to trigger a specific action.
- (f) A layout manager which allows the programmer to arrange the window components into five areas: north, south, east, west and center.

A3. State the value of each of the following Boolean expressions. [6]

(a) $3 + 2 * 4 == 20$

(b) $27 / 2 + 4.5 * 3 >= 18$

(c) $27 \% 4 * 6 < 40$

(d) $56 \% 8 != 7$

(e) $8 / 2 + 9 / 2 != 12$

(f) $(3 + 8) \% 5 >= 5$

A4. (a) List **THREE** types of identifiers that can be declared inside a java program. [3]

(b) State **THREE** requirements or rules which must be met when declaring identifiers. [3]

A5. Name any **TWO** access modifiers that define the circumstances under which a class or class members in a program can be accessed. [2]

A6. Rewrite the following selection structure into a switch construct. [10]

```
if (Grade == 'A' || Grade == 'B')
    System.out.println("Good Student");
else
    if (Grade == 'C' || Grade == 'D')
        System.out.println("Average Student");
    else
        System.out.println("Reunit Student");
```

Section B

[60 marks]

Answer ANY TWO questions in this section.

B1.

[30 marks]

(a) Identify and correct the errors in the following program fragments:

(i) The following should print a message stating whether integer
'value' is 1 or 2: [2]

```
switch(value)
{
    case 1 : System.out.println("Choice 1");
    case 2 : System.out.println("Choice 2");
}
```

(ii) `public static void double(int b);` [6]

```
{
    int b;
    System.out.println(b);
}
```

(b) Write a java program to prompt the user to enter a number. It will continue to let the user to enter a number until the user enters a number that is less than or equal zero. It will display the sum of the numbers entered by the user. [16]

(c) List and describe **THREE** benefits of object-oriented programming. [6]

B2.

[30 marks]

- (a) Write a java program to display a number from 20 to 100 with incremental of 7. You need to make use of while loop structure. [8]
- (b) Explain the difference between a counter-controlled repetition and a sentinel-controlled repetition. [4]
- (c)
 - (i) Write a method header for a method called powerprocess that takes two values x and y of type float and returns a double result. [3]
 - (ii) Write a Java statement to test if the value of the variable balance is above the variable limit. If it is, displays “above the limit”. [2]
 - (iii) Decrement the variable h by 1 then add it into the variable sum. [2]
- (d) Explain the meaning of the following Java statements.
 - (i) `Button meabutton = new Button(“measure”);` [3]
 - (ii) `g.drawLine(10, 35, 50, 35);` [4]
 - (iii) `int[] data = { 12, 24, 45,78};` [4]

B3.

[30 marks]

- (a) Describe **FOUR** key methods used in an applet program. [8]
- (b) Describe the purpose of using container and give **TWO** examples of it. [4]
- (c)
 - (i) Write a Java applet program to draw a rectangle with x and y co-ordinates at 11 and 58 respectively. The width and height of the rectangle should be 145 and 65 respectively. Assume the class name is sample. [10]
 - (ii) Write HTML codes to activate the above Java applet. [6]
 - (iii) Write an instruction on how to activate the above file using applet viewer. Assume the file name of the above html codes is test.html. [2]

-END OF PAPER-