

ASSESSMENT -I
COMPUTER APPLICATION (GRADE 10)

Maximum Marks: 100
Time allowed: Two hours

This paper is divided into two sections
Attempt **all** questions from **Section A** and **any five** question from **Section B**.
The intended marks for questions or parts of questions are given in brackets[].

SECTION A
(Attempt **all** questions from this **Section**)

Question 1

Choose the correct answer and write the correct option.

[20]

- (i) The classes provided by java for its primitive types are known as?
- (a) Wrapper classes
 - (b) Primitive classes
 - (c) Functional classes
 - (d) Object classes
- (ii) Give the output of the following code:
Float A=2.6, B=7.7
- (a) 10.3
 - (b) 10
 - (c) 10.30000
 - (d) error
- (iii) What is the final value stored in variable x ?
double x=Math.ceil(Math.abs(-7.3));
- (a) 7.0
 - (b) 8.0
 - (c) 6.0
 - (d) 9.0
- (iv) The default value of a boolean variable is:
- (a) false
 - (b) 0
 - (c) 1
 - (d) True
- (v) do...while loop is an
- (a) entry controlled loop
 - (b) infinite loop
 - (c) exit controlled loop
 - (d) Finite loop
- (vi) A _____ method needs to be called with the help of an object.
- (a) void
 - (b) class
 - (c) non-static
 - (d) static
- (vii) Choose the access specifier
- (a) 'a'
 - (b) ==
 - (c) { }
 - (d) Public

- (viii) The parameters appearing in function call statement are called
- (a) actual parameters
 - (b) formal parameters
 - (c) call parameters
 - (d) all the above
- (ix) Which of the following is used for accessing an integer, where sc is a Scanner Object
- (a) sc.nextInt();
 - (b) sc.next();
 - (c) sc.int();
 - (d) sc.nextInteger();
- (x) A function can return ___ values.
- (a) 1
 - (b) 2
 - (c) 3
 - (d) All the above
- (xi) The function that changes the state of its parameters is called
- (a) pure function
 - (b) impure function
 - (c) change function
 - (d) none of the above
- (xii) Which of these is a wrapper for data type int?
- (a) Double
 - (b) integer
 - (c) Integer
 - (d) Int
- (xiii) Which of the following is a valid wrapper class
- (a) float
 - (b) Char
 - (c) string
 - (d) Float
- (xiv) Which of the following does not represent a character literal?
- (a) 'a'
 - (b) '1'
 - (c) '\a'
 - (d) "a"
- (xv) ch +=2 is equivalent to
- (a) Ch = ch+2
 - (b) Ch+2
 - (c) ch = + 2
 - (d) none of the above
- (xvi) Wrapping up of data and methods together as one unit is termed as:
- (a) Inheritance
 - (b) Polymorphism
 - (c) Encapsulation
 - (d) Abstraction
- (xvii) Assertion (A): Static method can access static and instance variables.
Reason (R): Static variable can be accessed only by static method.
- (a) Assertion and Reason both are correct.
 - (b) Assertion is true and Reason is false.
 - (c) Assertion is false and Reason is true.
 - (d) Assertion and Reason both are false
- (xviii) Identify the name of '&&' operator:
- (a) Increment operator
 - (b) Logical operator
 - (c) Ternary operator
 - (d) Relational operator

- (xix) Which among the following is not a valid error in java?
 (a) Syntax errors
 (b) Logical errors
 (c) Run-time errors
 (d) Technical errors
- (xx) Ternary operator is a :
 (a) Logical operator
 (b) Arithmetic operator
 (c) Relational operator
 (d) Conditional operator

Question 2

- (i) Evaluate the following [2]

(a) If $x=3, y=5$ and $z=10$

$++z+y-y+z+x++;$ $11+0+10+3$ 24

(b) $s=++j + 5$ results into (value of j is 10, find the value of s) 16

- (ii) What will be output by the following: [2]

(a) `Math.floor(-4.7)`

(b) `Math.ceil(3.4) + Math.pow(2,3)`

- (iii) Write the following as java expressions [2]

(a)
$$\frac{ax^2+b}{cx+d}$$

(b)
$$\frac{-b+\sqrt{b^2-4ac}}{2a}$$

- (iv) Name the two types of constructors? [2]

- (v) What is the main difference between a while loop and a do..while loop? [2]

- (vi) Rewrite the following using ternary operator: [2]

`if((x%2)==0`

`System.out.print("EVEN");`

`else`

`System.out.print("ODD");`

- (vii) Differentiate between formal parameter and Actual parameter [2]

- (viii) Write the syntax to create an Byte object using Wrapper class [2]

- (ix) Give the output of the following : [2]

```
switch(x){
  case 'M':
    System.out.print("Microsoft Teams"); break;
  case 'G':
    System.out.print("Google Meet");
  default:
    System.out.print("Any software"); break;
  case 'W':
    System.out.print("Web Ex"); break;
}
```

- (x) Identify and name the following tokens: [2]

(a) `public` (b) `'a'` (c) `==` (d) `{ }`

SECTION B

(Answer **any five** questions from this section)

The answer in this section should consist of the programs in either BlueJ environment or any Program environment with java as the base.

Each program should be written using variable description/mnemonic codes so that the logic of the Program is clearly depicted.

Flowcharts and algorithms are not required.

Question 3

Write a program that calculates the purchase price as the minimum of enrolment price and closing price. Use Math class to compute minimum of the two.

[12]

Question 4

Write a program that computes the volume of a cylinder with a radius 5.75 cm and height as 15 cm. Use a constant for storing value of PI as 3.14159.(Note :- The volume of cylinder is $\pi r^2 h$),

[12]

Question 5

Write a class having a method that receives distance in meters and return in centimeters. Invoke this method through main().

[12]

Question 6

Write a java program to input number of week's day(1-7) and translate to its equivalent name of the day of the week. (e.g., 1 to Sunday, 2 to Monday,7 to Saturday). Use switch statement

[12]

Question 7

Design a class to overload a function compare() as following:

- void compare(int,int) – to compare two integer values and print the greater of the two integers.
- void compare(char, char) - to compare the numeric value of two characters and print the character with higher numeric value.
- void compare(String, String)- to compare the length of the two strings and print the Longer of the two.

[12]

Question 8

A school conducts three exams namely term1 exams, term2 exams and final –term exams. final marks scored (weighted marks) are computed as 30% of term1 and term2 each's marks+40% of the final-term Marks. Write a program to compute the weighted marks for a student who scored 412 in first term,423 in second term and 430 in third term. Then compute the weighted percentage out of 500 marks.

[12]

Question 9

Write a program to print first 50 numbers in reverse order i.e., 50 to 1.

[12]