

Time: 2 hours

MM:100

SECTION A

(Attempt all questions from this Section.)

Question 1

[20]

Choose the correct answer and write the correct option.

- (i) Name the feature of OOP depicted in the following picture :



- a) Polymorphism  
b) Abstraction  
c) Encapsulation  
d) Inheritance
- (ii) The program written by a programmer in a text editor which is converted to machine language is called the \_\_\_\_\_ code.  
a) object  
b) source  
c) convert  
d) machine
- (iii) Java was developed by James Gosling and \_\_\_\_\_.  
a) Bill Gates  
b) Patrick Naughton  
c) Mark Zuckerberg  
d) Simon Mathew
- (iv) What will be the output of the following code:  
`System.out.println("Gen \t Next");`  
a) GenNext  
b) Gen Next  
c) Gen    Next  
d) None of these
- (v) An operator that works with \_\_\_\_\_ operands or expressions is called ternary operator.  
a) one  
b) two  
c) three  
d) four
- (vi) An expression has two parts \_\_\_\_\_ and operator.  
a) operand  
b) exponent  
c) statement  
d) none of the above
- (vii) Which package would you import for the Scanner class?  
a) java.util  
b) java.awt  
c) java.io  
d) java.lang
- (viii) Which one is **not** correct with respect to class?  
a) It is a logical entity  
b) No memory acquired when created  
c) It is defined only once  
d) It is blue print to create object
- (ix) What is the ASCII range of A – Z?  
a) 65 - 90  
b) 65 - 91  
c) 97 - 122  
d) 97 - 121
- (x) Class from which the features are inherited to another class is known as \_\_\_\_\_ class.  
a) super  
b) base  
c) parent  
d) all of the above
- (xi) Which escape sequence is used to insert a new line?  
a) / n  
b) \\ n  
c) / m  
d) \ n
- (xii) Which of the following is not a valid keyword in Java?  
a) float  
b) new  
c) public  
d) token
- (xiii) What will be the output of the following code:  
`int a = -5;  
System.out.println ( -a++ );`

- a) -5  
b) -6
- (xiv) What will be the output of the following code?  
`int z = (+ + x * - - y) % (- - y); when int x = 2 , y = 5;`  
a) 4  
b) 1
- (xv) Next ( ) is used to input a \_\_\_\_\_  
a) sentence  
b) paragraph
- (xvi) `int z = 5.6 ;` is a \_\_\_\_\_ error.  
a) logical  
b) syntax
- (xvii) `a = a + 9 ,` can be written as \_\_\_\_\_  
a) `a = + 9`  
b) `a += 9`
- (xviii) Which statement is used to define multiline comment?  
a) `/* ----- */`  
b) `*/ ----- */`
- (xix) 'O' in WORA stand for -  
a) Once  
b) Output
- (xx) `int a = 10, b = 6 ;`  
`long c = a + b ;` is a \_\_\_\_\_ type of conversion.  
a) implicit  
b) reference
- c) 5  
d) 6
- c) 0  
d) 12
- c) character  
d) line
- c) runtime  
d) None of the above
- c) `a + 9 =`  
d) `a = 9 +`
- c) `/* ----- /*`  
d) `*/ ----- /*`
- c) Original  
d) Output
- c) explicit  
d) local

### Question 2

- (i) What is the difference between = and == operator? [2]
- (ii) Write a Java expression for:  $\frac{a^2 + b^2}{a+b}$  [2]
- (iii) What will be the output of the following code, when int a = 7;  
`int m = (a + +) + (- - a * - - a) * 2 ;` [2]
- (iv) Write the full form of the following: a) ASCII b) JVM [2]
- (v) What is the output of the following code: [2]  
`int a = 5 ;`  
`System.out.println ( " First output : " + (+ + a) );`  
`a = (- - a) + (- - a % 3);`  
`System.out.println ( " Second output : " + a );`
- (vi) Convert the following from if – else statement to ternary operator: [2]  
`if ( num >= 0 )`  
`{`  
`System.out.print ( " Positive Number " );`  
`}`  
`else`  
`{`  
`System.out.print ( " Negative Number " );`  
`}`
- (vii) Differentiate between a class and object. [2]
- (viii) What will be the output of the following code, if int a = 4 , b = 8 ;  
`boolean m = ! ((a >= b) && ( b != a ));` [2]
- (ix) Find the error, correct them and rewrite the code: [2]  
`int x = 5.7 , y = 3.9 ;`  
`double res = x * y;`  
`System.out.println ( " The result is : " + res )`
- (x) Write the name of the following operator: [2]  
a) ? :  
b) &&

## SECTION B

(Attempt any four questions from this Section.)

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

### Question 3

[15]

Write a program to input principal amount, rate of interest and time duration using Scanner class. Calculate the simple interest and amount to be paid and print the result.

[ Simple Interest = ( Principal \* Rate \* Time ) / 100 and Amount = P + Simple Interest ]

### Question 4

[15]

Write a program to input a number of days using Scanner class and convert it into number of years , months and days .

### Question 5

[15]

Write a program to input two numbers using Scanner class and print the square of the greater number and cube of the smaller number.

### Question 6

[15]

Write a program to accept three integer numbers resembling the angles of a triangle using Scanner class. If the sum of all the three angles is equal to 180 degree, then print it is a triangle else print a suitable message.

### Question 7

- Write a program to input a character using Scanner class and check whether the entered character is a vowel or not. [8]
- Write a program to input a number using Scanner class and check whether the number is even or odd. [7]

### Question 8

[15]

Write a program to input the name, class, roll number and marks in three different subjects of a student using Scanner class and calculate the total and percentage of it. If the percentage obtained is greater than or equal to 40 then display the result as "Promotion granted" else print "Promotion not granted" (using Ternary operator). Print the result in the following format:

Name :

Class :

Roll Number :

Marks 1 :

Marks 2 :

Marks 3 :

Total :

Percentage :

Result :

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