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STD VIII

COMPUTER APPLICATIONS

Time: 2Hrs  
Marks: 80

**Section A**

**Question 1**

- a) What do you mean by a token? [2]
- b) What are keywords? [2]
- c) What kind of literals are the following?
- 1) 33    2) 5.3    3) '\n'    4) true [2]
- d) Distinguish between the terms 'a' and "a". [2]
- e) Declare two variables to store the values 34 and 2233445566 [2]

**Question 2**

- a) Arrange the following data types in ascending order based on their storage size in bytes [2]
- 1) double    2) boolean    3) int    4) char
- b) Name the following : [2]
- 1) a symbolic constant
- 2) some unwanted situation that appears during the execution of a program.
- c) What do you mean by escape sequence? [2]
- d) Write down the default values of the following data types. [2]
- 1) long    2) double    3) boolean    4) int
- e) Identify the following are Run time error/Semantic error / Syntax error [2]
- 1) Missing double quotes in strings
- 2) Dividing a number by zero
- 3) formula used to find the area of a rectangle is typed as length + breadth
4. Missing semicolon

### Question 3

a) Write an equivalent Java expression for the following mathematical expressions [2]

1)  $\frac{a+b}{a^2+b^2}$                       2)  $\sqrt{a^2+b^2}$

b) State the results of the following ,if  $x=4,y=7,w=20$ .(show the working also) [2]

a)  $w = x+y$                       b)  $w-y > w-x$

c) State the difference between next() and nextLine(). [2]

d) What will be value of result after evaluating the following : [2]

`int result = a+b > 1500 ? 500 : 250;`

if 1)  $a=1000$  and  $b=500$     ii) if  $a=1200$  and  $b=450$

e) Write down the output of the following: [2]

1)    `int m=4,n=8;`  
      `m+=n;`  
      `n=m-n;`  
      `m-=n;`  
      `System.out.println(m+ " "+n);`

2)    `char ch1='B',ch2='b';`  
      `System.out.println(ch1+ch2);`  
      `System.out.println(ch1-ch2);`  
      `System.out.println(ch1*10);`  
      `System.out.println(ch1%ch2);`

f) Evaluate the following [2]

1)  $23 + 15 * 2 / 10 - 6 \% 4$

2)  $(23 + 15) * 12 / (10 - 6) \% 4$

g) Write down the data type and value of res1 and res2 after evaluating the following [2]

`res1 = Math.sqrt(4,3);`

`res2 = Math.max(-17,Math.min(-8,9));`

h) Write down the output of the following: [2]

1) Math.floor(4);

2) Math.sqrt( Math.ceil(8.9)\*Math.round(9.1))

i) What is a unary operator? Give an example. [2]

j) Explain string concatenation with the help of an example. [2]

### Section B

**Question 4** [5+5]

a) Write a java program to input values of a and b evaluate the following expressions

$$S = \frac{1}{4}a\sqrt{a^2 - b^2}$$

b) Write a java program to input time in seconds and convert it into hours, minutes, seconds

eg: if input value is 7660

output will be 2 hours 7 minutes 40 seconds

**Question 5** [5+5]

1) Write a java program to input a 2 digit number and find the product of digits.

Eg: input value is 34 output is 12

2) Write a java program to create a class Employee and input the salary(sal) , number of days extra worked (days) and rate per day(rate) Calculate the wages of the employee as ( salary+extra days worked\*rate per day) and print all the details.

**Question 6** [8]

Create a class Mall and define a function Billing() to input details of a product as product code(pc) of long integer type, quantity and (qty) and price of product in decimals. Calculate the total cost of the product, 18.5% discount on total cost and net price to be paid after the discount. Print all the details of the product.

**Question 7** [12]

Create a class Office and define a function Salary() to input the employee code(EC) as an integer and monthly salary(sal) in decimals. Calculate 75% of salary as special allowance(spl) and 12.5% of salary as conveyance allowance(con). Also calculate the total monthly salary (sal+spl+con) and the annual salary of the employee. Print all the details of the employee.