Quarterly Examination 2018-2019
COMPUTER APPLICATIONS

Class : X

Time : 2 hrs + 15 min. **Full Marks : 100**

(Section - A - Compulsory)

I. Answer the following **(2x5=10)**

a) 'Java is case sensitive' comment.

b) What do you understand by null empty loop ?

c) If x = 5, what will be the value of y is

(i) y = ++x (ii) y = x++;

d) Define constructor and mention its types.

e) Differentiate between operator and expression .

II. Write difference between the following **(2x5=10)**

a) Call by value and call by reference

b) Source code and object code.

c) Differentiate between isLowerCase() and to UpperCase().

d) Differentiate between instance variable and local variable.

e) / and % . Give example.

III. Write output of the following **(2x10=20)**

a) State the value and data type of y after the execution of following code

```
char x = '6' ;
y=Character.isLetter(x);
```

b) State the output when the following program segment is executed.

{Turn Over}

```
String a="Smartphone", b="Graphis Art";
String h=a.substring(2,5);
String k=b.substring(8).toUpperCase();
System.out.println(h);
System.out.println(k.equalIgnoreCase(h));
```

c) Write the output of the following

```
char ch;
int x=97;
do
{
ch=(char)x;
System.out.println(ch);
If(x%10==0)
break;
++x;
}
while(x<=100);
```

d) If int y=10 then find

```
int Z=(++y*(y++  +5));
```

e) a=10, b=4

```
int c=(a++/2 + - - b%2) +4 ;
```

f) How many times the loop will execute ? What value will be returned ?

```
int x=2 , y= 5;
while(y<=50)
{
++x;
y = y*x;
System.out.println(x+"\t"+y);
++x;
}
```


6) Write a program to accept an option from the user between a to c and print pattern on basis of the option entered by the user

a)	b)	c)
5	abcde	9
54	bcde	89
543	cde	789
5432	de	6789
54321	e	56789

g) System.out.print(Math.ceil(4.1)+Math.floor(4. 9));

h) Write JAVA expression for the following :
$D=Vm^2+n^2/m*n$

i) State the output of the following
double x=2.9, y= 2.5;
System.out.println(Math.min(Math.floor(x),y));
System.out.println(Math,max(Math.ceil(x),y));

j) State the output of the following
String s="Examination";
System.out.printin(s.startswith("exam"))
Syste.out.println(s.charAt(2)==s.charAt(6));

(SECTION-B) (15x4=60)
(Answer any 4)

1) Write a program to calculate electricity to be paid by customer as per given conditions:-

Units	Rate per unit in Rs.
Does not exceed 250	3.50
More than equals to 250 and less than 400	4.50 for units more than 250 units
More than equals to 400 and less than 600	5.0 for more than 400 units
More than equals to 600	5.50 for more than 600

Final bill will be including rs. 350 as service charge.

In this program the user enter number of units used by customer. Print the final bill person has to pay.

2) Write a program to accept a string from the user in mix case and print same string in opposite case.

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3

Ex: enter- Stay fIT staY HEALthy
Output:- STAY Fit STAy healthy

3) Write a menu driven program using switch case statement, to find the Arithmetic mean, Geometric mean and Harmonic mean which are calculated as:

k) Arithmetic mean =(a+b)/2

ii) Geometric mean = $\sqrt{a+b}$

iii) Harmonic mean = 2*a*b/(a+b)

4) Write a program to accept a word. Print and display whether the word is a Palindrome or Special word.

Special words are those which starts and end with same letter.

Ex:- EXISTENCE, COMIC, WINDOW

Palindrome words are which read the same from left to right and vice-versa.

Ex:- MALAYALAM, MADAM, CIVIC

5) Design a class to over load a function sumseries() as follows

a) Void sum series(int n, double x) - with one integer and one double argument and display the sum of the series given below

S=x/1 —x/2 +x/3 — x/5 + ... n terms

b) Void sumseries() — to find and display the sum of the series given below

S= 1! + 2! + 3! + 4! +.....20!

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