

7. a) Write a program having two functions :
- SumSeries()- to find the sum of the series :
 $s=1 +x^2-x^3+x^4-x^5.....x^n$ where x and n are given by the user
- HCF _LCM() - to find the hcf and lcm of two numbers given by the user.

8. Write a program to calculate the charge of a transport company according to the following criteria:

Weight	Rate
Upto first 100 Kg	Rs. 10/Km
For the next 50 Kg	Rs. 7/Km
Above 150 Kg	Rs. 5/km

Display the details in the following format:

Weight	Kilometer travelled	Total cost
_____	_____	_____

9. Create a class named 'Numbers' having the following functions -

factor() - this function inputs a number and displays the factors of a number given by the user.

Example : Input 6	Output : 1
	2
	3
	6

factorial() - this function inputs a number and displays the factorial of a number given by the user

Example : Input : 3	Output : 6 (1 X 2 X 3 = 6)
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Half Yearly Examination - 2018-19
COMPUTER APPLICATIONS

Class : IX

Time : 2 Hrs. + 15 min.

Full Marks : 100

- 1 a) Give one difference and one example of each of the following: (2x5=10)
- (i) switch and if block
 - (ii) break and continue
 - (iii) pure and mixed expression
 - (iv) empty and infinite loop
 - (v) int and double datatype
- 2 a) Define a function check that accepts a number. (2x5=10)
- b) Why is a class called an object factory?
 - c) Which statement is optional in a switch block? What is its function?
 - d) In the following expression identify the operator(s) and the operand(s):

$$x = a + b - c + d;$$
 - e) What is compilation? Why is it necessary?
- 3 a) Write the java expression for the following: (2)
- $$X = \sqrt{a^2 + b^2}$$
- b) What will be the value of c when
 - (i) a = 5.0 and b= 2.0
 - (ii) a = 5 and b= 2
 where $c = (a/b)^2;$

c) Fill in the blanks in the following code to get the following output:

OUTPUT: 1 2 2 3 3 3 4 4 4 4

CODE: for(i=1; i<= ____ i++)

{ for(j=____ j<=____; j++)

{System.out.print(____);}}

d) Convert the following if block to switch block

if(a==2) (3)

System.out.println("two");

else

if(s==3)

System.out.println("three");

else

System.out.println("it's a number");

e) if a = 50 and b = 40 find the value of (2)

g if $g = a++ - -a + b++ + (b/2)$

f) Give the output of the following for loop : (2)

for(i=100; i>=0; i=i/10)

System.out.println(i);

System.out.println("program over");

g) State whether the following statements are true or false : (3)

(i) The two type of values that a boolean datatype returns are true and false.

(ii) The function Math.pow(2,2) returns 2 and the function Math.sqrt(2) returns 4.

(iii) The statement $x = (a > 10) ? 25 : 45;$ is an example of ternary operator;

h) Convert the following into an if block: (2)

$f = (v == 100) ? 0.1 * v; 0.2 * v;$

SECTION B (15 X 4 = 60 marks)

Each program should be written using variable description / Mnemonic codes such that the logic of the program is clearly depicted.

ATTEMPT ANY FOUR QUESTIONS

- Write a program to input a number and check whether it is a prime number or not. (A prime number is one which has two factors 1 and the number itself).
- Write a program to input the radius of a circle, length and breadth of a rectangle, side of a square and a choice. If choice is 1 calculate and print the area of a circle (πradius^2), if choice is 2 calculate and print the area of a square (side*side), if choice is 3 calculate and print the area of a rectangle(length*breadth).
- Write a program to print the following patterns using two functions(use loop construct)

Pattern1()- 12345

1234

123

12

1

Pattern2()

1

11

111

1111