Quarterly Examination : 2021-22
Class - IX
Subject - COMPUTER APPLICATIONS

Time : 2 hrs.   **M.M. : 100**

Answer to this Paper must be written on the paper provided separately.
You will not be allowed to write during the first 15minutes.
This time is to be spent in reading the question paper.
The Paper is divided into TWO sections.
Attempt all questions from Section A and any four questions from Section B.
The intended marks for questions or parts of questions are given in brackets[ ].

SECTION-A [40Marks]
Attempt all questions.

Q.1- a. What do you mean by inheritance? [2]
b. Differentiate between compiler and interpreter. [2]
c. Define bytecode. [2]
d. What do you mean by 'java is a case sensitive language'? [2]
e. What is type casting? [2]

Q.2- a. State the number of bytes occupied by int and float datatypes. [2]
b. Differentiate between / and % operator. [2]
c. What is meant by package?Give an example. [2]
d. Why is class known as an object factory? [2]
e. What are escape sequences?Give any one example. [2]

Q.3- a. Give the output : Math.ceil(12.3); [2]
b. Rewrite the following using ternary operator:- [2]
```
    if(b > 100)
        d = b + 20;
else
        d = b * 5;
```
c. Write the java expressions for the following:- [2]
   i.   y = ut2 + k3
   ii.   SI = PRT/100
d. What will be the value of x if b = 2 and c = 3? [2]
   x = c++ − ++b * ++c;
e. Differentiate between Math.max( ) and Math.min( ) with the help of examples. [2]
f. Rewrite the following code using switch case: [2]
```
if (var==1)
System.out.println("One");
else if(var== 2)
System.out.println("Two");
else
System.out.println("Any other number");
```
g. What do you mean by fall through condition ? Why does it occur? [2]
h. Write the equivalent Java statements for the following using ONLY mathematical
   functions. [2]
   i.   Print the absolute value of –101
   ii.   Print the rounded off value of 234.49
i. Identify the literals listed below. [2]
   i.   0.5   ii.   'p'   iii. false   iv.   101
j. Evaluate k if the values of the variables are p = 7, q = 9, r = 11 [2]
   k = p * (q++ % 4) * ++r

SECTION-B [60 Marks]
Attempt any four questions from this Section.
The answers in this Section should consist of the Programs either Blue J environment
or any program environment with Java as the base.
Each program should be written using Variable descriptions/Mnemonic Codes
so that the logic of the program is clearly depicted.
Flow - Charts and Algorithms are not required.

Q.4- Write a program to input marks in five subjects. Display the total marks and also the average marks with appropriate messages. [15]

Q.5- Write a menu driven program to : [15]
   a. Calculate the area of a circle(πr^2)
   b. Calculate the Area of a square(side * side)

Q.6- Write two separate programs to:
   a. To input three numbers and display the largest number of the three. [7]
   b. To input Principal, rate and time and display the simple Interest. [8]

Q.7- A library charges a fine for books returned late as given below :

Days	Charge
First 5 days	40 paisa per day
6 to 10 Days	65 paise per day
Above 10 days	80 paise per day

Write a program to calculate the fine assuming the book is returned N days late.

Q.8- A special two digit number is such that when the sum of its digits is added to the product of its digits, the result is equal to the original two digit number. [15]
   Example 59 :::   5 + 9 = 14 ::: 5 * 9 = 45
              :::   total sum of sum and product of digits is 14 + 45 = 59
   Write a program to accept two digit number.Check and display the message whether the inputted number is a special two digit number or not.

Q.9- Write a class with name employee. Find the gross pay of an employee for the following allowances and deduction. [15]
   Dearness Allowance = 25 % of Basic Pay
   House Rent Allowance = 15 % of Basic Pay
   Provident Fund = 8.33 % of Basic Pay
   Net Pay=Basic Pay + Dearness Allowance + House Rent allowance
   Gross pay = NetPay – Provident Fund

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