DELHI PUBLIC SCHOOL NEWTOWN
SESSION 2023-24
MONDAY TEST

CLASS: IX   **TOTAL MARKS: 40**
SUBJECT: COMPUTER APPLICATIONS   **DATE: 19.5.23**

Instructions:

The Question Paper comprises of Two Parts. Part-I is based on Multiple Choice Questions and Application questions. Part -II is based on Java Programs. The intended marks for questions are given in brackets [ ]. This paper consists of three printed pages.

PART-I (20 marks)
[Attempt all question]

Question 1

Choose the correct answer from the choices given: [6×1=6]

i) Which of the following is a valid identifier:
  a) My-file3   b) _?Myfile3
  c) 3My_file3   d) My3file3

ii) What is the range of byte?
  a) -128 to 127   b) -231 to 230
  c) -263 to 262   d) -32768 to 32767

iii) Which of the following is a new line character:
  a) '\l'   b) '\n'
  c) '\t'   d) '\f'

iv) The literal 1.52E07 will be stored using which data type:
  a) byte   b) double
  c) long   d) String

v) JVM converts _____ code into _____ code.
  a) byte, machine   b) machine, byte
  c) source, byte   d) machine, byte

vi) The ASCII code of whitespace is:
  a) 52   b) 48   c) 32   d) 87

Question 2 [7x2=14]

a) What is the extension of java source code and java byte code?

b) Write a java statement to create an object *"computer"* of the *"subject"* class.

c) Name the operators: i. <   ii. &&   iii. ++   iv. ?:

d) If a = 7, then find the value of the given expression:

   a += a++ + ++a + --a + a--

e) Write java expressions of the following mathematical expression:

   i. $(\frac{B+C}{2})h$ ii. $\pi r^2 h$

f) State the final values of 'n' and 'ch' after execution of the following java statements. Also state what type of conversion is occurring with each of them.

   char c = 'A';

   int n = c+1;

   char ch = (char)n;

g) Rewrite the following java snippet using ternary operator:

   if(x%2==0)

   System.out.print("even");

   else

   System.out.println("odd");

PART-II (20 marks)
[Attempt all questions. Each program should be written using Variable descriptions/Mnemonic Codes so that the logic of the program is clearly depicted]

Question 3 [10]

Write a java program to input monthly income of a man and compute the tax according to the given conditions and display the calculated tax. (Note: slab is given based on annual income of the person)

Total Annual Income (₹)	Tax rate
Upto ₹ 1,00,000	No tax
From ₹ 1,00,001 to ₹ 1,50,000	10% of the income
From ₹ 1,50,001 to ₹ 2,50,000	₹ 5000 + 20% of the income
Above ₹ 2,50,000	₹ 25,000 + 30% of the income

Question 4 [10]

Write a program in Java to accept a 2 digit number and display the output " Special 2- digit number" for the proper condition or " Not a special 2-digit number" for improper condition. The two digit number is said to be special when the sum of its digits is added to the product of its digits to return back the original 2-digit number.

Example:

Consider the number : 59

Sum_of_the_digits =5 + 9 =14

Product_of_the_digits = 5 * 9 = 45

Sum_of_the_digits+ Product_of_the_digits = 14 + 45 = 59