

ANNUAL EXAMINATION : 2018-2019

Class - IX

Time : 2 hr.

Subject - Computer Application

M.M. : 100

Answers to this paper must be written on the paper provided separately.

You will not be allowed to write during the first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this paper is the time allowed to write the answers.

This paper is divided into TWO sections.

Answer ALL the questions in Section A and any FOUR questions from Section B.

The intended marks for questions or parts are given in [].

SECTION - A [40 MARKS]

Attempt ALL questions from this section.

- Q.1- a. Name any 2 principles of OOP's. [2]
b. Name 2 types of Java program. [2]
c. Define 'string'. [2]
d. What are the default values of the primitive data type int and float? [2]
e. Differentiate between while and do-while. [2]
- Q.2- a. Write a statement to create an object 'mp4' of the class 'digital'. [2]
b. What is the use of the keyword 'import'? [2]
c. Define Encapsulation. [2]
d. Define software piracy. [2]
e. Define spam. [2]
- Q.3- a. Write Java expression :- $m = \frac{2}{3}(a^2 - b^2)h$ [2]
b. Give the output:- $a = 6, b = 5$
 $c = (a++ \% b++) * a + ++a * b++$
c. Give answer in one/two words:- [2]
i. Name a package that is invoked by default.
ii. Name the package that contains the class 'Scanner'. [2]
d. Give one example each of a primitive data type and a composite datatype. [2]
e. State the values of n and ch :- [2]
 $\text{char } c = 'A';$
 $\text{int } n = c + 1;$
 $\text{char } ch = (\text{char})n;$
f. Operators with higher precedence are evaluated before operators with relatively lower precedence. Arrange the operators given below in order of higher precedence to lower precedence. $+, >, \&\&, !, *, \%, +, -$ [2]
g. Rewrite the following using ternary operator:- [2]
 $\text{if}(p > 5000)$
 $\text{d} = p * 5/100;$
 else
 $\text{d} = 2 * p/10;$
h. Name the type of error (syntax, runtime or logical error) in each case given below: [2]
i. $\text{Math.sqrt}(36 - 45)$
ii. $\text{int } a; b; c;$

- i. Give the output:- [2]
 - i. `int x = Math.abs(Math.max(-91, -97));`
 - ii. `System.out.println(Math.ceil(7.8));`
- j. Give the output of the following:- [2]
 - String s = new String("MALAYALM");
 - i. `System.out.println(S.indexOf(S.charAt(8)));`
 - ii. `System.out.println("COMPOUND".compareTo("COMPUTER"));`
 - iii. `System.out.println(S.replace('A', '*'));`
 - iv. `System.out.println(S.substring(2, 6));`

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 description/mnemonic* codes such that the logic of the program is clearly depicted.

Flow charts and algorithms are not required.

- Q.4- Write a program to input pan no., name and annual taxable income. Calculate the tax of an employee according to the following criteria and display all the information:- [15]

<u>Annual Taxable Income</u>	<u>Tax Rate</u>
upto ₹ 1,00,000	No tax
From ₹ 1,00,001 to ₹ 1,50,000	10 % of the income exceeding ₹ 1,00,000
From ₹ 1,50,001 to ₹ 2,50,000	5000 + 20 % of the income exceeding ₹ 1,50,000
Above ₹ 2,50,000	25000 + 30 % of the income exceeding ₹ 2,50,000

- Q.5- Write a program to input a string and count the no. of capital letters, small letters, digits and special characters. [15]
- Q.6- Write a program to input 50 elements in an Array and search for a number whether it is present in an array or not. If present print its position in the array. [15]
- Q.7- Write a program to accept a number and check whether it is a 'Spy Number' or not. (A number is spy if the sum of its digits equals the product of its digits.) [15]
- Example : Input - 1124
 Sum of the digits - 1 + 1 + 2 + 4 = 8
 Product of the digits - 1 * 1 * 2 * 4 = 8

- Q.8- Write a menu driven program to perform the following tasks by using switch-case. [15]
- a. Area of circle = πr^2
 - b. Area of square = side * side
 - c. Area of rectangle = length * breadth

- Q.9- Write a program for the following:- [8]
- a. To find the sum of the series:- $S = \frac{a}{2} + \frac{a}{4} + \frac{a}{8} \dots \dots \text{upto } n$ [8]
 - b. Print the following pattern:- [7]

E
 E X
 E X A
 E X A M