

Answer to this paper must be written on a 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. Attempt ALL the questions from Section A and any four questions from Section B.

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

### SECTION 'A' [40 Marks]

Attempt all questions from this section.

- Q.1- a. What are key words? Give an example. [2]  
 b. Define break statement. [2]  
 c. What is Explicit type conversion? [2]  
 d. What is the use of keyword final? [2]  
 e. Define block. Give an example. [2]
- Q.2- a. Define fall through. [2]  
 b. Define ternary operator. [2]  
 c. Write the syntax and example of for statement [2]  
 d. Define Dynamic initialization with example. [2]  
 e. Define Nested loop. [2]
- Q.3- a. Give the output of the following: [2]  
 i. if x=-68.75, calculate Math. abs(x);  
 ii. if x=25.0, calculate Math. sqrt(x);  
 b. If a=5, b=9, calculate the value of : [2]  
 i. a+=a++ - ++b +a  
 ii. p=(a++\*b++)+- - b/3 [2]  
 c. Rewrite the following using ternary operator: [2]  
 if(p>5000)  
     g=p\*5/100;  
 else  
     g=2\*p/100;  
 d. Write the Java expression for the following: [2]  
 i.  $x^3 + y^3 - \frac{xy}{z}$       ii.  $\frac{(a+b)^n}{\sqrt{2+b}}$   
 e. Differentiate between: [2]  
 i. if else and switch [2]  
 ii. while and do-while [2]  
 f. Rewrite the program code using do-while. [2]  
 int x, c;  
 for (x=10, c=2; c<=10; c+=2)  
 x++;  
 System.out.println(x);  
 g. Give the output: [4]  
 i. int x=1, y=1;  
    if (m>0)  
    {  
       x=x+1;  
       y=y+1;  
    }  
 What will be the value of x and y, if m assumes a value:  
 a. 1                      b. 0  
 ii. class d  
 {  
    public static void main (String args[])

```
int i=2, k=1;
while (++i<6)
k*=i;
system.out.println(k);
}
```

**SECTION 'B' [60 Marks]**

Answer any Four questions from this section

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- a. What is Internet? Name 2 types of networks used in Internet. [5]  
 b. What do you understand by Ethics? Mention at least 3 ethical values. [5]  
 c. Distinguish between Hardware and Software. [5]
- Q.5- a. Name 5 different services provided by Internet. [5]  
 b. Write short notes on: [5]  
     i. Software piracy                      ii. Hacking
- Q.6- c. What do you understand by Recycle Bin. [5]  
 a. Write a program to display the first 10 numbers of the Fibonacci series. [7]  
 b. Input a number and print the sum of its digits. [8]
- Q.7- Write a menu driven class to accept a number from the user and check whether it is a palindrome or a perfect number. [15]

- i. Palindrome number: (A number is a palindrome which when read in reverse order is same as in the right order)  
 Eg- 11, 252, 37873 etc.
- ii. Perfect number: (A number is called perfect if it is equal to the sum of its factors other than the number itself)  
 Eg- 6=1+2+3

- Q.8- a. Write a program to display the given pattern. [7]
- ```
1
1 0
1 0 1
1 0 1 0
1 0 1 0 1
```
- b. Write a program to display the sum of the following series: [8]

$$s = \frac{1+2}{1*2} + \frac{1+2+3}{1*2*3} + \frac{1+2+3+\dots+n}{1*2*3*\dots*n}$$

- Q.9- Write a program in JAVA to find the gross salary of an employee for the following allowances and deductions. [15]

Use meaningful variable with a class name employee and basic as input.

| Allowance/Deduction    | Rate           |
|------------------------|----------------|
| Downness Allowance     | 25% of BASIC   |
| House Rent Allowance   | 15% of BASIC   |
| Provident fun          | 8.30% of BASIC |
| Net pay= Basic +DA+HRA |                |
| Gross pay= Netpay-PF   |                |