

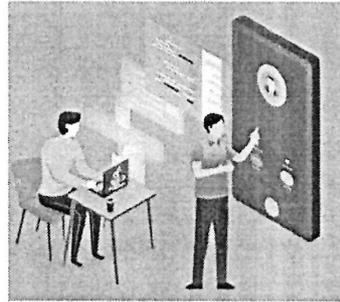
This paper is divided into two sections.
Attempts all questions from Section A and any four questions from Section B
Section A(40 Marks)
(Attempt all questions from this Section)

Question 1.

[20]

Choose the correct answer to the questions from the given options.
 (Do not copy the questions, write the correct answers only)

i)



Name the feature of java depicted in the above picture.

- | | |
|----------------|------------------|
| a) Abstraction | c) Encapsulation |
| b) Inheritance | d) Polymorphism |
- ii) The concept of write once, run anywhere feature of java makes it:
- | | |
|-------------------------|----------------------|
| a) Platform Independent | c) Objected Oriented |
| b) Robust | d) Secure |
- iii) Select the valid order of higher precedence to lower precedence of operator in the expression: $20 \% ++3 - 4 *(9 + 5)$
- | |
|--------------------|
| a) ++, *, %, +, - |
| b) *, ++, %, +, - |
| c) (), ++, *, %, - |
| d) (), ++, *, %, + |
- iv) The default value of String data type is:
- | | |
|------------|-----------|
| a) null | c) spaces |
| b) garbage | d) \u0000 |
- v) If int a= 70; char ch=(char) a; value of ch:
- | | |
|------|------|
| a) F | c) g |
| b) f | d) G |
- vi) A data type that contains integer as well as fractional part that occupies 64 bits
- | | |
|-----------|------------|
| a) double | c) float |
| b) Double | d) Integer |
- vii) (i) 'z' (ii) false (iii) "BHS" (iv) a[i]
 Choose the correct order:
- | |
|--|
| a) (i) character literal (ii) boolean literal (iii) String literal (iv) subscripted variable |
| b) (i) char variable (ii) boolean variable (iii) String variable (iv) array |
| c) (i) String literal (ii) boolean variable (iii) string variable (iv) subscript |
| d) (i) character (ii) boolean literal (iii) array (iv) string variable |
- viii) Which of the following method of class String is static:
- | | |
|---------------|-----------------|
| a) valueOf() | c) substring() |
| b) length() | d) trim() |
- ix) The output of the statement "DAD".compareTo ("MOM") is:
- | | |
|-------|------|
| a) -9 | c) 8 |
| b) 9 | d) 7 |
- x) The statement that brings the control back to the calling method is:
- | | |
|-------------------|-------------|
| a) return | c) continue |
| b) System.exit(0) | d) break |
- xi) Which of the following is not a wrapper class:
- | | |
|--------------|------------|
| a) byte | c) Integer |
| b) Character | d) Double |
- xii) The output of System.out.println(Math. ceil(46.89)+Math. floor(-13.75)):

- { sum+=a; System.out.println(sum)); }
- vi) Rewrite the following for loop program segment using while: [2]
 for (int i=10, f=1; i>=1; i--)
 { f *=i;
 System.out.println(f); }
- vii) Consider the following two-dimensional array answer the following [2]
 questions:
 int arr[][]={{4,7,1},{1,5,3},{2,8,6}};
 a) What is the order of the matrix?
 b) Give output: System.out.println(arr[1][3] * arr[2][1]);
- viii) Joy wanted to count the number of digits in a given number without using [2]
 loop. Write the correct statements to help him?
- ix) Show the output of the following program segment? [2]
 int a=2; int b=40;
 while (a<=10)
 {
 ++ a;
 System.out.println((++a +b--));
 }
- x) Give the output of the following code snippet: [2]
 String x= "125.15";
 String y= "100.06"
 double a=Double. parseDouble(x);
 double b=Double. parseDouble(y);
 System.out.println(a + b);

Section B

(Answer any **four** questions from this Section)

Each program should be written using variable description
 Flowcharts and Algorithms are not required

Question 3 [15]

BLUEDART a courier company charges for the courier based on the weight of the parcel. Define a class with the following specifications:

Class name	:	BlueDart
Member variables	:	
name	:	name of the customer
weight	:	weight of the parcel in kilograms
address	:	address of the recipient
bill	:	amount to be paid
type	:	'D'- domestic, 'I'- international
Member Method	:	
void accept()	:	Input name, weight, address of the recipient, type using the Scanner class methods only.
void calculate ()	:	to calculate the bill as per the following criteria:

Weight in Kgs	Rate per Kg
First 5 Kgs	₹ 1000
Next 5 Kgs	₹ 800
Above 10 Kgs	₹ 500

An additional amount of ₹ 1500 is charged if the type of the Courier in I (International)

void print()	:	Display name, weight, address of the recipient, type and bill amount
void main()	:	Create an object of the class to call the above methods.

Question 4 [15]

Define a class to create an array to accept 10 names. Using Bubble Sort technique Arrange the names in ascending order. Display the sorted array.

Question 5

[15]

Sam designs a program to check the strength of a password. A strong password should satisfy the following conditions: the length of the password must be 12 characters. It should have at least four lowercase characters, four uppercase characters, two digits and two special characters.

Define a class PassWord to accept a string and check whether the password is strong or not. Display it's a strong password if above conditions are satisfied else display it's a weak password.

Question 6

[15]

Write a program to create a 3 x 4 matrix to input integer numbers.

Create the transpose of a matrix. Transpose of a matrix is a new matrix whose rows are columns and columns are rows. Print both original and transpose matrix.

Example:

A[][]	T[][]
1 4 7 10	1 2 3
2 5 8 11	4 5 6
3 6 9 12	7 8 9
	10 11 12

Question 7

[15]

Define a class to overload the function **Perform** as follows:

void Perform (int n[], int s)

To input ten integer numbers in an array n []. Input a number to search in the array list using Linear Search technique. If number found print Search Successful else print Search unsuccessful.

void Perform() use Nested loop to generate the following pattern

```

5
4 4
3 3 3
2 2 2 2
1 1 1 1 1
```

void Perform(String s) Input your full name and print it in abbreviated form.

Example:

Input: MOHAN DAS KARAMCHAND GANDHI

Output: M. D. K. GANDHI

Question 8

[15]

Write a program to create a single dimension array to store 10 integer numbers. Find and print all the pal-prime numbers in an array. A Pal-prime number is a number which is both Prime and Palindrome
