

**COMPUTER APPLICATIONS - 2005**  
**(Theory)**  
**(Two Hours)**

*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 for writing the answers.*

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*This 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 [ ].*

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**SECTION A (40 Marks)**

*Attempt all questions.*

**Question 1**

[10]

- (a) Name any two OOP'S principles.
- (b) Mention two different styles of expressing a comment in a program.
- (c) Which element is num[9] of the array num?
- (d) Differentiate between operator and expression.
- (e) if  $m = 5$  and  $n = 2$  output the values of  $m$  and  $n$  after execution in (i) and (ii):-
  - (i)  $m - = n$ ;
  - (ii)  $n = m + m/n$ ;

**Question 2**

[10]

- (a) Explain the term for loop with an example.
- (b) What is a compound statement? Give an example.
- (c) State the difference between Constructor and Method.
- (d) State one similarity and one difference between while and do while loop.
- (e) Explain, with the help of an example, the purpose of default in a switch statement.

**Question 3**

(a) What will be the output of the following, if x = 5 initially?

(i) `5 *++x` [1]

(ii) `5*x++` [1]

(b) What is the output of the following? [2]

```
char = 'A';
```

```
short m = 26;
```

```
int n = c+m;
```

```
System.out.println(n);
```

(c) Explain the meaning of break and continue statements. [3]

(d) (i) What is call by value? [1]

(ii) How are the following passed? [1]

(1) Primitive types

(2) Reference types [1]

(e) Enter any two variables through constructor parameters and write a program to swap and print the values. [4]

(f) What do the following functions return for:-

```
String x = "hello";
```

```
String y = "world";
```

(i) `System.out.println(x+y);` [1]

(ii) `System.out.println(x.length());` [1]

(iii) `System.out.println(x.charAt(3));` [1]

(iv) `System.out.println(x.equals(y));` [1]

(g) Differentiate between `toLowerCase()` and `toUpperCase()` methods. [2]

**SECTION - B (60 Marks)***Attempt any four questions from this section.***Question 4**

Write a class with name employee and basic as its data member, to find the gross pay of an employee for the [15]

following allowances and deduction. Use meaningful variables.

Dearness Allowance = 25% of the 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 = Net Pay – Provident Fund

**Question 5**

Write a program to input any given string to calculate the total number of characters and vowels present in the string and also reverse the string :- [15]

Example : INPUT

Enter String : SNOWY

OUTPUT

Total number of characters : 05

Number of Vowels : 01

Reverse string : YWONS

**Question 6**

Write a program using a function called area() to compute the area of a :  
(Display the menu to output the area as per User's choice.)

(i) circle( $\pi * r^2$ ) where  $\pi = 3.14$  [5]

(ii) square(side\*side) [5]

(iii) rectangle ( length\*breadth) [5]

**Question 7**

Write a program to bubble sort the following set of values in ascending order:

[15]

5,3,8,4,9,2,1,12,98,16

OUTPUT :  
1  
2  
3  
4  
5  
8  
9  
12  
16  
98

**Question 8**

Write a program to print the sum of negative numbers, sum of positive even numbers and sum of positive odd numbers from a list of numbers(N) entered by the user. The list terminates when the user enters a zero.

[15]

**Question 9**

Write a program to initialize an array of 5 names and initialize another array with their respective telephone numbers. Search for a name input by the User, in the list. If found, display "Search Successful " and print the name along with the telephone number, otherwise display "Search unsuccessful. Name not enlisted".

[15]