

Computer Application Question Paper

2005

General Instructions

1. This paper is divided into two Sections.
2. Attempt **all** questions from **Section A** and **any four** questions from **Section B**.
3. The intended marks for questions or parts of questions are given in brackets [].

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? [2]
 - i. $5 * ++x$
 - ii. $5 * x ++$
- (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?
(ii) How are the following passed?
(1) Primitive types (2) Reference types
- (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:- [4]

```
String x = "hello";
String y = "world";
```

 - i. `System.out.println(x+y);`
 - ii. `System.out.println(x.length());`
 - iii. `System.out.println(x.charAt(3));`
 - iv. `System.out.println(x.equals(y));`
- (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 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 [15]

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 :

(i) circle($\pi * r^2$) where $\pi = 3.14$ (ii) square(side*side) (iii) rectangle (length*breadth)

Display the menu to output the area as per User's choice. [15]

Question 7

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

5,3,8,4,9,2,1,12,98,16 [15]

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]