

Con. 6927-13.

GS-5508

## (REVISED COURSE)

(3 Hours)

[ Total Marks : 80 ]

**N.B.**

- (1) Question No. 1 is **compulsory**.
- (2) Attempt any **three** questions from remaining.
- (3) All questions carry **equal** marks.
- (3) Assume suitable **data** wherever **necessary**.

1.	(a) Explain the purpose of following standard library functions –	3
	(i) Floor ( )      (ii) ceil ( )      (iii) sqrt ( )	
	(b) Explain how problem is defined with a help of suitable example.	4
	(c) Explain difference between for, while and do while loop.	3
	(d) Explain difference between call by value and call by reference.	4
	(e) Explain any three string standard library functions.	3
	(f) Explain reference and de-reference operators with example.	3
2.	(a) Explain various storage classes used in c with example.	5
	(b) Write a program to calculate sum of list by passing array to a function.	5
	(c) Write a c-program to create an array of structure to store the details of almost 100 employees. And sort it according to employee ID. Employee details are as follows :	10
	(i) Employee Name	
	(ii) Employee ID	
	(iii) Employee Salary.	
3.	(a) Write an algorithm and draw flowchart to calculate roots of quadratic equation.	6
	(b) Write a program to display pascal triangle.	6
	A	
	A B	
	A B C	
	A B C D	
	A B C D E	
	(c) Explain recursion concept. Write a program to display Fibonacci series using recursion.	8
4.	(a) Write an algorithm to sort set of numbers in ascending order. For above problem in which cases time complexity is calculated.	6
	(b) Write a program to display armstrong nos between 1 to 1000.	6
	(c) Write a program to calculate matrix multiplication and transpose for a matrix.	8

[TURN OVER]

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5. (a) Write a output for following program :-

6

```
# include <stdio.h>
Void main ( )
{
    int x = 10, y, z;
    z = y = x;
    y-- = -- x;
    z -= x--;
    x -= -- x - x--;
    printf ("x = %d y = %d z = %d," x, y, z);p
}
```

(b) WAP to calculate sum of series

6

$1/2 + 3/4 + 5/6 + \dots + n$  terms.

(c) Write a program to sort list elements in descending order.

8

6. (a) Explain difference between switch statement, ladder of if else and nested if else.

6

(b) Write a recursive program to calculate factorial of accepted number.

6

(c) Write a program to validate whether accepted string is palindrome or not.

5

(d) Explain how to read the contents of file and write into the file with Syntax.

3