

**N.B. :** (1) Question No. 1 is **compulsory**.

(2) Attempt any **three** questions from remaining **five** questions.

(3) Figures to **right** indicate **full** marks.

(4) Assume **suitable** data if **necessary**, but justify the **same**.

1. (a) What do you mean by algorithm? which points you should consider while developing the algorithm. 4
- (b) Find the roots of quadratic equation. Is the above problem definition is complete? if not, make this problem definition complete. 4
- (c) State any 2 library functions in math.h along with its uses. 4
- (d) What do you mean by static and auto storage class. explain. 4
- (e) Difference between while and do.. while loop. 4
2. (a) Write a program in C to cyclically rotate the elements in array. Program should accept a choice in which direction to rotate i.e. left or right. Depending on choice it should perform cyclic rotation. 10  
Suppose array A contains elements {1, 2, 3, 4, 5} then if choice is rotate right o/p should be {5, 1, 2, 3, 4} and if choice is rotate left then o/p should be {2, 3, 4, 5, 1}
- (b) Write a program to generate prime nos between 1 to 100. 10
3. (a) What do you mean by recursion? Write a program, which will accept 2 nos from user say x and y. and calculate  $x^y$ . Program should make use of recursion. 10  
If x is 3 and y is 4 then output should be  $3^4$  i.e. 81.
- (b) Write a program to sort given nos in descending order. 10
4. (a) What do you mean by struct? What do you mean by nested structure? A sport club of cricket needs to maintain data about players. Description of it is given below. Club want to maintain players name, age, no of matches played, no of runs, and average. For above description declare a structure and comment about size of structure of your declaration. 10
- (b) Write a program which will accept 2 dimensional square matrix and find out transpose of it. Program should not make use of another matrix. 10



5. (a) Write a program to generate followig patterns.

10

```

(1)  5
      4  4
      3  3  3
      2  2  2  2
      1  1  1  1  1

(2)  1
      2  2
      3  3  3
      4  4  4  4
      5  5  5  5  5
  
```

- (b) Write a program to check whether given string is palindrome or not.

10

6. (a) What are the different ways for parameter passing to a function. Explain along with example. 10

- (b) What do you mean by FILE ? What are the different functions available to read data from the file ? Specify the different modes in which files can be opened along with syntax. 10

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March 2014

(REVISED COURSE) QP Code : NP-17782

(3 Hours)

[ Total Marks : 80

- N. B. : (1) Question No. 1 is **compulsory**.  
(2) Attempt any **three** questions from remaining five questions.  
(3) **Figures to right** indicate **full** marks.  
(4) Assume suitable data if necessary, but justify the same

1. (A) What do you mean by algorithm? Which points you should consider while developing the algorithm. 4
1. (B) Determine the type of triangle, given its sides.(i.e. isosceles, scalene, equilateral). Is the above problem definition is complete? if not, make this problem definition complete. 4
1. (C) State any 2 library function in string.h along with its uses. 4
1. (D) What do you mean by auto and extern storage class. Explain with example. 4
1. (E) Explain switch control statement with the help of example. 4
2. (A) Write a program in C to delete all the occurrences of given number from an ARRAY. For example, suppose ARRAY A = { 2,5,3,9,2,2,3} and given no is 2 then after deletion ARRAY should have A = { 5,3,9,3} 10
2. (B) Write a program to check whether the given number is palindrome or not. i.e if no is 12421 it is palindrome 10
3. (A) What do you mean by Recursion? write a program which will accept two numbers, n and r and calculate value of  $nC_r = n! / r! (n-r)!$ . Program should make use of recursion. 10
3. (B) Write a program to sort given nos in Ascending order. 10
4. (A) A Hospital needs to maintain details of patients . Details to be maintained are, First name, Middle name , Surname, Date of Birth, Disease. Write a C program which will print the list of all patients with given disease. 10
4. (B) write a program which will accept a 2 dimensional square matrix and find out transpose of it. Program should not make use of another matrix. 10
5. (A) Write a program to generate following patterns.

(i) 1  
2 3  
4 5 6  
7 8 9 10

(ii) \*  
\* \*  
\* \* \*  
\* \*  
\*



5. (B) Write a C program to multiply 2 matrices after checking compatibility. Your program should make use of function to accept element of matrix, display matrix, and multiply matrix 10
6. (A) Write a program to calculate summation of series.  
 $1/2 - 3/4 + 5/6 - 7/8 + \dots$  upto n terms. 10
6. (B) What do you mean by FILE ? What are the different functions available to read data from file ? Specify the different modes in which file can be opened along with syntax.
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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 10  
       employees. And sort it according to employee ID. Employee details are as follows :  
       (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 6  
       in which cases time complexity is calculated.  
   (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

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

6

# include &lt;stdio.h&gt;

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

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