

Sub: SPA FE Sem (II) Rev (CBGS)  
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  $nC_r = \frac{n!}{r!(n-r)!}$ . 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) \*  
\* \* \*  
\* \*  
\*

- 10
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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