

Subject Code: R13105/R13

Set No - 4

I B. Tech I Semester Regular Examinations Feb./Mar. - 2014

COMPUTER PROGRAMMING

(Common to CE, ME, CSE, PCE, IT, Chem E, Aero E, AME, Min E, PE, Metal E)

Time: 3 hours

Max. Marks: 70

Question Paper Consists of **Part-A** and **Part-B**
 Answering the question in **Part-A** is Compulsory,
 Three Questions should be answered from **Part-B**

PART-A

- 1.(i) Write an algorithm for computing the sum of the series $1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots$ up to N terms.
- (ii) Why do array subscripts start at 0 instead of 1?
- (iii) Compare recursion with iteration.
- (iv) What is wrong with the following code segment?
- ```
int *p;
*p=10;
```
- (v) Write a program using structures and functions to compare two dates.
- (vi) What happens if anyone doesn't close a file?
- [4+3+4+4+4+3]

**PART-B**

- 2.(a) What are the advantages and limitations of using flow charts?
- (b) What is a multidimensional array? How is it initialized? How are the elements of multidimensional arrays stored? Comment on the accessing of the elements.
- [6+10]
- 3.(a) Describe the Towers of Hanoi problem. Write a function to solve the Towers of Hanoi problem with 3 disks.
- (b) Write a program that calculates the sum of array elements where array elements can be accessed using a pointer to an array?
- [8+8]
- 4.(a) How is a structure variable different from an array with respect to its use as a function parameter?
- (b) Write a C program that calculates GCD of two numbers using a recursive function?
- [8+8]
- 5.(a) Write an algorithm and C program to calculate roots of a quadratic equation and explain how to compile and run the above program?
- (b) Write a C program that calculates the product of two matrices and displays it?
- [8+8]
- 6.(a) Explain character pointer and pointer to a function with examples?
- (b) Write a C program that reads n numbers and writes even numbers into one file EVEN.txt and odd number into another file ODD.txt?
- [8+8]
- 7.(a) Write a C program that copies the content of one file into another file?
- (b) Write a C program that defines a structure-student with members-name, average, address where address is inner structure that contains dno, street, city as members, read the student details and display the output -student name and his city as follows:
- | Student name | city |
|--------------|------|
| X            | zzz  |
| Y            | www  |
- [8+8]