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B.TECH.**THEORY EXAMINATION (SEM-II) 2016-17****COMPUTER PROGRAMMING***Time : 3 Hours**Max. Marks : 100**Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.***SECTION – A****1. Explain the following:****10 x 2 = 20**

- (a) What is meant by storage classes of a variable?
- (b) Why we use do-while loop in c?
- (c) Define the concept of top down development and stepwise refinement process.
- (d) What is meaning of continue and break keyword in c?
- (e) What is recursion?
- (f) Explain the difference between function declaration and definition of a function.
- (g) Explain flow chart and the symbols used.
- (h) Write an algorithm to find the greatest number among three numbers.
- (i) Explain call by value with suitable example.
- (j) What do you mean by Macro?

SECTION – B**2. Attempt any five of the following questions:****5 x 10 = 50**

- (a) Explain differences between a flow chart and algorithm with an example.
- (b) What is a pointer? Write a C program to swap the values of two variables making the use of pointers.
- (c) Distinguish between actual arguments and formal arguments with the help of example.
- (d) Write a program in C to print the number of days using switch statement.
- (e) Write a program to print all the diagonal elements of the Matrix.
- (f) What is recursion? Write a program to print the Fibonacci series using recursion.
- (g) Write a program to generate the following pattern


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*   *
*   *   *
*   *   *   *
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- (h) Write a program to rearrange a list of names in ascending order.

SECTION – C**Attempt any two of the following questions:****2 x 15 = 30**

- 3** What are the different file opening modes in C. Suppose a file contains student's records with each record containing name and age of a student. Write a C program to read these records and display them in sorted order by name.
- 4** **Write short notes on:** i) Dynamic Memory allocation in C , ii) Command Line arguments
- 5** (i) Write macro definition with arguments for calculation of simple interest and amount.
(ii) Write a C program to add first seven terms of the following series using for loop. $1/1! + 2/2! + 3/3! + \dots$