# Vidya Jyothi Institute of Technology (Autonomous)

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Aziz Nagar, C.B.Post, Hyderabad -500075) **Subject code: A21501** **R18**

**I B. Tech I SEM REGULAR EXAMINATION – DECEMBER 2018**

**PROGRAMMING FOR PROBLEM SOLVING -I**

**(COMMON TO CE, EEE, MECH, ECE, CSE& IT)**

**Time: 3hrs** **Max.Marks:75**

*Note: This question paper contains two PARTS A and B.*
*PART A is compulsory which carries 25 marks. Answer all questions.*
*PART B consists of 5 questions. Answer all the questions.*

## PART - A

**ANSWER ALL THE QUESTIONS** **25 M**

1. Define data type. 2M
2. Give the symbols of flow chart. 3M
3. What is the difference between explicit type conversion and implicit type conversion 2M
4. Explain pre-decrement and post-decrement with an example. 3M
5. Write syntax for while loop? Give an example 2M
6. Demonstrate switch case with an example. 3M
7. Define the function and list out the types of function . 2M
8. Explain about extern keyword with example. 3M
9. Explain linear search technique 2M
10. Define a two-dimensional array with an example. 3M

## PART-B

**ANSWER ALL THE QUESTIONS** **5QX10M=50M**

11.i) a) Explain salient features of a C program.
b) Write an algorithm and draw a flowchart for finding the largest of three numbers

**OR**

ii) a) Write and explain the steps in writing a 'C' program.
b) Define keyword and identifier? How are they different? Explain with a suitable example

12.i) a) Explain about type conversions. Why there is a need to have them? Explain with suitable example.
b) Determine the value of the following 'C' expressions:
(i) int i, j, k=7; j = k; i=j; i = j-- - --k; printf("%d", i);
(ii) int x = 5, z; float y; z = x++; y = ++x; printf("%d %f %d ", x, y, z);

**OR**

ii) a) Explain different bitwise operators with examples.
b) Write C program to print the Fibonacci sequence.

13.i) a) Explain nested if-else statement with an example.
b) Write a C program to find a reverse of a number using while loop.

**OR**

ii) a) When is do-while loop preferred over while loop. Give example.
b) Can you place a continue statement in switch-case block? Explain with an example.

14.i) a) Explain the concept of recursion with a suitable example.
b) Explain 'auto', 'register', 'extern' and 'static' storage classes with suitable examples.

**OR**

ii) a) Explain in detailed about parameter passing technique.
b) Write a C program to find the factorial of a number using recursion.

15.i) a) Explain one-dimensional array with a suitable example.
b) Write a C program to add two matrices.

**OR**

ii) a). Write a C program for insertion sort for the following values in an array:

| 65 | 87 | 21 | 43 | 10 | 63 |
|---|---|---|---|---|---|

b) Explain binary search for the following array:

| 34 | 23 | 21 | 38 | 10 | 9 | 11 | 13 | 12 | 36 |
|---|---|---|---|---|---|---|---|---|---|

Assume the search element is 12.

***VJJT(A)***