

Code No: 151AC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.Tech I Year I Semester Examinations, September/October - 2021****PROGRAMMING FOR PROBLEM SOLVING****(Common to CE, ME, ECE, EIE, MCT, MMT, ECM, AE, MIE, PTM, CSBS,
CSE(AI&ML), CSE(IOT))****Time: 3 Hours****Max. Marks: 75****Answer any five questions
All questions carry equal marks**

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- 1.a) What is flow chart? Draw a flowchart to generate Fibonacci sequence up to 'n' numbers.
b) In C if any variable is auto storage class by default, then why auto keyword introduced in C? Explain. [7+8]
- 2.a) What is an array? Write a 'C' program for Matrix Multiplication.
b) Write the use of Pointers in self-referential structures. [7+8]
- 3.a) Explain the basic operations performed on file.
b) What is the use of the preprocessor directives? Explain. [7+8]
- 4.a) Write a program to differentiate the structure and union memory allocations using size of function.
b) Explain the use of array of structures with an example program. [7+8]
- 5.a) Explain bubble sort with an example.
b) Give a brief note on insertion sort. [7+8]
- 6.a) Define Data type. Briefly discuss the fundamental data types supported in C.
b) How entry controlled loop is different from exit controlled loop? Explain. [7+8]
- 7.a) List the advantages of Pointers. Explain about pointers to structures.
b) Describe String library functions with syntax as well as example program. [7+8]
- 8.a) Explain recursion with an example program.
b) Write a note on dynamics memory allocation. [7+8]

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