

**Code No: 151AC****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech I Year I Semester Examinations, July - 2021****PROGRAMMING FOR PROBLEM SOLVING****(Common to CE, ME, ECE, EIE, MCT, MMT, ECM, AE, MIE, PTM, CSBS, CSE(AIML),  
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 the difference between declaration and definition of a Variable? Give examples.  
b) How is do-while loop differ from while loop? Explain with suitable example code. [7+8]
- 2.a) State the purpose of type casting and type conversion.  
b) Mention the pros and cons of using 'goto' statement in a C program.  
c) List and explain various storage classes used in C program. [5+5+5]
- 3.a) Using two dimensional array, write a C program to find the transpose of a 2×2 matrix.  
b) Demonstrate the usage of pointers in self referential structures using an example C code. [7+8]
4. Explain the usage of structures for illustrating the case study of maintaining examination marks records of students in a class. [15]
5. Demonstrate the following functions with a correct syntax and code:  
a) fopen( )    b) fprintf( )    c) fscanf( ) [5+5+5]
- 6.a) Write a C program that copies the integer contents of a binary file to another file.  
b) Write a C program to use conditional compilation directive to find whether an identifier is defined or not. [8+7]
7. Illustrate the concept of passing arrays to functions with relevant example program. [15]
- 8.a) Write an algorithm for finding roots of a quadratic equations.  
b) Explain how bubble sort works and also mention its time complexity. [7+8]

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