

Code No: 151AC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.Tech I Year I Semester Examinations, June - 2022****PROGRAMMING FOR PROBLEM SOLVING****(Common to CE, ME, ECE, EIE, MCT, MMT, ECM, AE, MIE, PTM, CSBS,
CSE(AI&ML), CSE(IOT), TTE, AI&DS, AI&ML)****Time: 3 Hours****Max. Marks: 75****Answer any five questions
All questions carry equal marks**

- 1.a) What is computer memory? Explain about primary and secondary memory.
- b) Explain different type conversion techniques with examples. [7+8]
- 2.a) Write a C program to check whether the given number is prime or not.
- b) Illustrate various forms of **if** statements with syntax and examples. [7+8]
- 3.a) What is an array? Describe declaration and initialization of one and two dimensional arrays with examples.
- b) Discuss basic string functions available in C with examples. [7+8]
- 4.a) What is a structure? Explain defining and initializing a structure with example.
- b) What is a pointer? Write a C program to find sum of all elements in an array using a pointer. [7+8]
- 5.a) Differentiate between text and binary files?
- b) A file named DATA contains a series of integer numbers. Write a C program to read these numbers and then write all 'even' numbers to a file called EVEN and all 'odd' numbers to a file called ODD and then finally print the contents of these two files. [5+10]
- 6.a) Explain various dynamic memory allocation functions with examples.
- b) Discuss call by value and call by reference with example programs. [7+8]
- 7.a) Explain commonly used preprocessor commands like include and define with example programs.
- b) Write a C program to find factorial of a given number using recursion. [7+8]
- 8.a) Write an algorithm to find the roots of a quadratic equation.
- b) Write a C program for selection sort. [7+8]

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