

**Darshan Institute of Engineering & Technology****B.E. Semester – I • Pre GTU Examination – February 2021****Subject Code** : 3110003**Date** : 19/02/2021**Subject Name** : Programming for Problem Solving**Time** : 11:30 am to 01:30 pm**Total Marks** : 56

**Instructions** : 1. Attempt any **FOUR** out of **SEVEN** questions.  
2. Figure to the right indicate full marks.  
3. Don't do any kind of rough work or calculation in Question Paper.

- Q. 1**
- (A) Explain various data types available in C. **03**
  - (B) Draw the block diagram of computer architecture. **04**
  - (C) Define Algorithm & Flowchart. Explain various symbols used in Flowchart. Draw a flowchart to find out whether given number is even or odd. **07**
- Q. 2**
- (A) Explain various operators available in C. **03**
  - (B) Explain an array with example. How to initialize one dimensional array? Explain with example. **04**
  - (C) Write a program to draw below pattern. **07**  
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- Q. 3**
- (A) What is function? Explain different categories of function with example. **03**
  - (B) What is virtual loop? Explain "goto" statement with example. **04**
  - (C) What is difference between entry control and exit control loop? Explain for loop, while loop, do...while loop with example. **07**
- Q. 4**
- (A) What is Recursion? Write a program to find factorial of a given number using recursion. **03**
  - (B) What is structure? How do we declare and access structure variables? Explain with example. **04**
  - (C) Explain call by value (pass by value) and call by reference (pass by reference) with example. **07**
- Q. 5**
- (A) Explain various file opening modes. **03**
  - (B) Explain difference between structure and union. **04**
  - (C) Explain following string handling functions with example. **07**  
strcpy, strcat, strlen, strcmp, strncmp, strncat, strncmp, strrev, strchr, strstr

- Q. 6**    **(A)**    Write a program to find area of triangle. **03**  
          **(B)**    What is dynamic memory allocation? Show the use of malloc() and calloc() function with their syntax. **04**  
          **(C)**    What is pointer? How to declare and initialize it? Explain with example. **07**
- Q. 7**    **(A)**    Define break and continue statement with example. **03**  
          **(B)**    Explain type conversion and type casting with example. **04**  
          **(C)**    Explain File management in C. Explain various file handling functions with example. **07**

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