

**P.G. DIPLOMA EXAMINATION —
JUNE 2018.**

Software Quality Management

DATA STRUCTURES THROUGH C

Time : 3 hours

Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Brief about various Control Structures in C.
2. What are the various data types in C? Give the limitations of these data types.
3. Write a simple program using multi dimensional array for getting a matrix of numbers as input and displaying the same as output.
4. Brief the differences between structures and unions with suitable example program.
5. Write and explain the procedure for creating a B—Tree.

6. Write a program in C to create, insert and search elements in a singly linked list.
7. Discuss about the structure of a C program.

PART B — ($5 \times 10 = 50$ marks)

Answer any FIVE questions.

8. Write a program to swap two numbers using call by value and call by reference methods. Also brief the differences between the methods.
9. What is stack? How to push, pop and delete elements in the stack? Explain with examples.
10. Explain the various graph traversal techniques with suitable pseudo code.
11. Brief the various types of operators in C with necessary examples.
12. Write a short note on Text and binary files. Also explain Random access in files.
13. List out the various tree traversal techniques. Explain any two methods in detail.
14. Explain Indexed Sequential file structures with neat diagram and examples.