



32224/B 240

Reg. No.

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**II Semester B.C.A. 3 Degree Examination, May/June 2018
(Repeaters)**

DATA STRUCTURES USING 'C'

Time : 3 Hours

Max. Marks : 80

- Instructions :**
- 1) Answer all Parts.
 - 2) Draw neat diagrams wherever necessary.
 - 3) Write question numbers correctly.

PART – A

1. Answer **any ten** of the following : **(2×10=20)**
- a) What is a structure ? Give example.
 - b) Write the syntax of getc() and putc() functions.
 - c) What are primitive and non primitive data structures ?
 - d) Convert the following expression from infix to postfix :
(A + B) * C/D.
 - e) Define recursion.
 - f) What is FIFO ?
 - g) What are the advantages of a Linked List ?
 - h) What are self referential structures ?
 - i) Define Binary tree.
 - j) Which are the different traversal techniques for a binary tree ?
 - k) What is a pointer ?
 - l) List the applications of a queue.

PART – B

- Answer **any four** of the following : **(5×4=20)**
2. Write a program to implement the working of a stack.
 3. Differentiate between static and dynamic memory allocation methods.
 4. Write a program to demonstrate the working of a simple queue.
 5. Write a note on representation of a Linked List.
 6. Explain complete binary tree and binary search tree.
 7. Write a note on error handling in files.

P.T.O.



PART – C

Answer **any four** of the following :

(10×4=40)

8. Write a C program to create a file to store employee details like eno., ename and salary and display its contents in proper format.
 9. Explain the classification of data structures in detail.
 10. a) Write a program to find binomial coefficient using recursion.
b) Explain the primitive operations on a stack. **(5+5)**
 11. a) Explain circular queue and its operations using an example.
b) Define the following :
 - i) Node
 - ii) Degree of a node
 - iii) Root. **(4+6)**
 12. Explain the different types of linked list with diagram.
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