



22224/B 320

Reg. No.

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II Semester B.C.A. 2 Degree Examination, May/June 2018
DATA STRUCTURES USING C
(Repeaters)

Time : 3 Hours

Max. Marks : 80

- Instructions :** 1) Answer *all* Sections.
2) **Draw neat diagrams wherever necessary.**

SECTION – A

- I. Answer **any ten** of the following questions : **(10×2=20)**
- 1) What is a pointer ? Write its syntax.
 - 2) Define data structure.
 - 3) Explain the syntax of fprintf () function with a syntax.
 - 4) What is searching ? Mention any 2 search techniques.
 - 5) What is a recursive function ? Give an example.
 - 6) Mention the applications of stack.
 - 7) List different types of queue.
 - 8) Define linked list. Draw the diagrammatic representation of a linked list.
 - 9) What is a complete binary tree ? Give example.
 - 10) What is the use of malloc () function ?
 - 11) Explain any four file access modes.
 - 12) What is LIFO data structure ? How do you declare it ?

SECTION – B

- II. Answer **any six** questions : **(5×6=30)**
- 13) What is dynamic memory allocation ? Explain various memory allocation and deallocation functions.

P.T.O.



14) Draw the binary search tree for the following elements.

16	4	15	12	7	36	10	2
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15) Write a short note on selection sort.

16) Write a program to calculate GCD of 2 nos using recursion.

17) Write the insert and delete functions for a regular queue.

18) Convert the following expressions into postfix :

a) $* + mn/xy$

b) $((a * b + c) + d/f)$.

19) Write a program to sort elements using bubble sort.

20) Describe insertion of nodes in linked list.

SECTION – C

III. Answer **any three** questions of the following :

(3×10=30)

21) W.A.P. to create a file and display its contents in proper format using following fields Book_id, Book_name, Author and Price_of_book.

22) What is a stack ? Explain different operations of stack with an example.

23) Write short notes on **any two** :

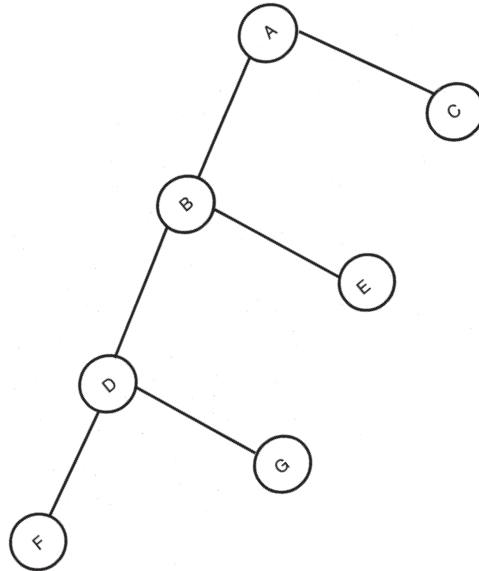
a) Circular queue

b) Double ended queue

c) Priority queue.



- 24) a) Define inorder, preorder and postorder for binary tree.
- b) Traverse the following tree in inorder, preorder and post order



- 25) Explain the following :
 - a) Doubly linked list
 - b) File error handling functions.
