



12236/B 220

Reg. No.

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II Semester B.C.A. Degree Examination, May 2016

DATA STRUCTURE USING C

(KUD – Repeaters)

Time : 3 Hours]

[Max. Marks : 80

Instructions : 1) Answer **any five** full questions.

2) Draw neat diagram whenever necessary.

3) Write question numbers correctly.

1. (a) Define data structure. Explain different operations on data structure.
(b) Write a note on dynamic memory allocation.
(c) Explain in detail classification of Data Structures. **(4 + 6 + 6 = 16)**

2. (a) Explain basic file operations.
(b) Write a 'C' program to find Binomial coefficient using recursive technique.
(c) Write a note on the following :
(i) Get C () (ii) Put C () (iii) fprintf () (iv) fscanf () **(4 + 4 + 8 = 16)**

3. (a) Define Recursion. State its limitations.
(b) Compare :
(i) Sequential and Binary Search
(ii) Merge sort and quick sort
(iii) Iterative and Recursion method **(4 + 12 = 16)**

4. (a) Write a C program to sort n numbers using bubble sort.
(b) Define stack. Write a C functions for PUSH and POP operations. **(8 + 8 = 16)**



5. (a) Convert the following into infix :
- (i) $AB + C -$
 - (ii) $+ - A B C$
 - (iii) $A B - C + D E F - + \$$
- (b) Write a program to implement ordinary queue.
- (c) Define queue. **(6 + 8 + 2 = 16)**
6. (a) List the drawback of an ordinary queue ques Double ended queue.
- (b) What is Linked list? State the advantages & disadvantages of linked list. **(8 + 8 = 16)**
7. (a) Define the following :
- (i) Root Node
 - (ii) Path
 - (iii) Ancestors of a node
 - (iv) Level and edge
 - (v) Terminal and Non Terminal Node
- (b) Write a note on complete binary tree and binary search tree. **(10 + 6 = 16)**
8. Write a short note on the following (**any four**) :
- (a) Error handling on files
 - (b) Traversing of binary tree
 - (c) Applications of stack
 - (d) Random access files
 - (e) Circular and priority queue **(4 + 4 + 4 + 4 = 16)**
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