



DCCS 201

II Semester B.Sc. Degree Examination, Oct./Nov. 2022

(NEP Scheme)

COMPUTER SCIENCE

DSC – 2 : Data Structures Using C

Time : 2½ Hours

Max. Marks : 60

**Instruction :** Answer *all* the Sections.

SECTION – A

I. Answer **any 6** questions. **Each** question carries **2** marks. **(6×2=12)**

- 1) Define Data structure.
- 2) What are the Asymptotic notations ?
- 3) What is Recursion ?
- 4) Write the memory representation of single dimensional array.
- 5) What are the operations on arrays ?
- 6) What do you mean by Garbage Collection ?
- 7) Write any two applications of stack.
- 8) Write any two advantages of Circular queue.
- 9) What do you mean by Complete binary tree ?

SECTION – B

II. Answer **any 4** questions. **Each** question carries **6** marks. **(4×6=24)**

- 10) What are the advantages and disadvantages of arrays ?
- 11) Compare Linear Search and Binary Search.
- 12) Explain the memory allocation functions with examples.
- 13) Explain the Stack operations.
- 14) Write the algorithm for insertion of a Queue.

P.T.O.



15) Explain the following :

- 1) Leaf node of a tree
- 2) Level of a tree
- 3) Degree of a tree.

SECTION – C

III. Answer **any 3** questions. **Each** question carries **8** marks.

(3×8=24)

16) Write the algorithm for Tower of Hanoi with examples.

17) Write a program for Bubble sort technique.

18) a) Compare singly linked list and doubly linked list.

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b) Evaluate the following Postfix expression using stack.

4

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19) Explain the following :

(4+4)

a) Double ended queue

b) Priority queue.

20) Explain any two Tree traversals of a binary tree.

