DEPARTMENT OF COMPUTER SCIENCE (BCA)
GOVT. DEGREE COLLEGE BHADERWAH
Internal Assessment

Examination: BCA Semester 2nd . **Course No.: UBCATC-201**

Title: Data & File Structure Using C language **M.M: 20**

Time: 1 Hours

Important Instructions for Students:

1. *That the students are required to write answer on **A4 size** white paper and must write their Name, Class Roll Number, Course Code and Signature at top of each sheet.*
2. *That this question paper consists of two parts.*
   - ***Part-I** consists of **2 questions of 10 marks** and students are required to attempt **any 1 questions***
   - ***Part-II** consists of **8 questions of 2 marks** and students are required to attempt **any 5 questions.***
3. *That the students shall submit the Answer sheets in single PDF format (File to be named as Semester-RollNo.-Couse Code) after the completion of paper in the provided departmental **E-mail: deptofcompscigdcb@gmail.com.***
4. *The PDF file must be less than **25MB in total**. Use smaller resolutions of camera while taking photos of answer scripts.*
5. *Any student who fails to upload/send the answer sheet with in stipulated time of examination i.e. **1 hour** shall be treated as defaulter and his/her answer sheet shall be treated as cancelled.*
6. *For any relevant query and clarification,contact,**9622139370.***

Part-I

Note: Do any One question. [10]

Q1. a) What is Algorithm? Explain the Characteristics of an Algorithm.
b) Design an algorithm to add two numbers and display the result.
c) What is Time Space trade-off in Algorithms.

Q2. a) Explain Linked List? List the basic operation supported by Linked List.
b) explain the algorithm of insertion operation in singly linked list.

Part-II

Note: Do any 5 question. [5x2=10]

Q1. How can we represent Array in memory. List out the basic operations of Array.
Q2. Design an algorithm to delete an element from the end of an array.
Q3. Define Time complexity & Space Complexity of an Algorithm.
Q4. Define Sparse Matrix. Why to use Sparse Matrix instead of simple matrix?
Q5. What is searching in Linked List? Design an searching algorithm in Linked List.
Q6. What is Circular Linked List?
Q7. What is Direct Memory Allocation?
Q8. What is Doubly linked List?