



B.Sc. IV Semester Degree Examination, May - 2018

COMPUTER SCIENCE

Data Structure Using "C"

Paper - BSC 404 CS

(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

All the parts are **compulsory**.

Part - A

I. Answer to any TEN of the following :

(10×2=20)

1. What is a data structure?
2. Define stack. Why stack is called a LIFO Data structure.
3. Define recursion Mention a type of recursion.
4. How is the queue different from the stack?
5. Mention any two disadvantages of linked list.
6. Define a circular doubly linked list with fig.
7. Define linked stack. Mention any two advantages.
8. Define tree.
9. Define Bubble sort.
10. State any two application of stack.
11. Define sorting. What is the main objectives behind in keeping a list of data store.
12. Wrtie a algorithm in C for postorder traversal.

[P.T.O

**Part - B****II.** Answer any **SIX** of the following :**(6×5=30)**

1. Write a algorithm for PUSH and Pop - Operation.
2. Write a difference between Prefix and Postfix expressions.
3. Explain circular queue.
4. Write a difference between the iteration and recursion.
5. What is binary tree? Mention the properties of a binary tree.
6. Write a C program to Compute GCD of two numbers using recursion.
7. Write a difference between prefix and postfix expression.
8. Explain the basic terminology of tree.

Part - C**III.** Answer any **THREE** of the following :**(3×10=30)**

1. Explain circular queue.
 2. Write a C - program to demonstrate linear search method.
 3. Explain different searching techniques.
 4. Write a C- program to create a binary tree and then search for an item in the tree.
 5. Explain the various operations that can be performed on a double linked list with diagram.
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11428(New)

B.Sc. IV Semester Degree Examination, April/May- 2019

COMPUTER SCIENCE
DATA STRUCTURES USING 'C'

PAPER - BSC 404 CS

(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

All sections are compulsory.

Section- A

I. Answer any Ten of the following questions.

(10×2=20)

1. Define data structure.
2. Name the various operations that can be performed on data structure.
3. Mention the classification of data structure.
4. How to access the address of a variable in pointer?
5. What is Malloc () and Calloc ()?
6. What do you mean by Stack?
7. Name the operations on Stack and write any one algorithm.
8. Write the prefix expression.
9. What do you mean by deck?
10. What is linked list?
11. Define tree.
12. Name different types of sortings.

[P.T.O.]

**Section - B**

II. Answer any **Six** of the following questions.

(6×5=30)

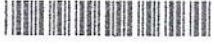
1. Write a note on Pointer.
2. Briefly explain the Static and dynamic memory allocation.
3. Explain Array representation of Stack.
4. Explain any one queue operation.
5. Write a note on Basic terms in tree.
6. Explain searching.
7. Explain Bubble sorting.
8. Write a 'C' program to Reverse a given Array of N elements.

Section - C

III. Answer any **Three** of the following questions.

(3×10=30)

1. Explain circular Queue.
 2. Explain any one application of Stack.
 3. Explain operations on single linked list in brief.
 4. Write a 'C' program for multiplication of two, 2 - d matrices.
 5. Explain Merge sorting.
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B.Sc. IV Semester Degree Examination, September/October 2022

COMPUTER SCIENCE

BSC 401 CS : Database Management System

Time : 3 Hours

Max. Marks : 60

Instruction : All Sections are compulsory.

SECTION – A

I. Answer the following :

(10×1=10)

- 1) Define database.
- 2) What is database schema ?
- 3) Expand VDL and TCL.
- 4) What is logical data independence ?
- 5) What is attribute ?
- 6) What is candidate key ?
- 7) Define entity.
- 8) What is join operation ?
- 9) Define SQL.
- 10) Define magnetic disk.

SECTION – B

II. Answer **any five full** questions :

(5×10=50)

- 1) a) What are the functions of DBA ? Explain.
b) What are the different types of end users ?
- 2) a) Explain the categories of Data models.
b) Explain 3-schema architecture with a neat diagram.

(5+5=10)

(5+5=10)

P.T.O.



- 3) a) What is E-R diagram ? Explain E-R diagram notations.
b) Explain workers behind the scene of database users. (5+5=10)
- 4) a) Explain ACID properties.
b) What is normalization ? Explain 2NF. (5+5=10)
- 5) a) What is DBMS interface ? Explain.
b) Write the general syntax of CREATE and UPDATE command with example. (5+5=10)
- 6) a) Explain various mapping cardinality ratio for binary relationship.
b) Write a brief note on creating views in SQL. (5+5=10)
- 7) a) Bring out the significance of "Foreign Key" concept.
b) What is "Relational Algebra" ? Explain. (5+5=10)
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B.Sc. IV Semester Degree Examination, September/October 2023
COMPUTER SCIENCE (New)
Database Management System

Time : 3 Hours

Max. Marks : 60

- Instructions** : 1) Part – A : All questions are **compulsory**.
2) Part – B : Answer **any five full** questions.

PART – A

I. Answer the following questions. **(10×1=10)**

- 1) a) Define DBMS.
- b) List any 2 advantages of DBMS.
- c) Define schema.
- d) Expand DDL and DML.
- e) What is tuple ? Give one example.
- f) What is primary key ?
- g) What is Data Model ?
- h) Define weak entity.
- i) List any 3 Relational Algebra Operations.
- j) Write the syntax to create the table in SQL.

PART – B

II. Answer **any five full** questions. **(10×5=50)**

- 2) a) Explain the characteristics of Database approach in brief. **5**
- b) Explain actors on the scene in DBMS. **5**
- 3) a) Explain Database languages. **5**
- b) Explain three schema Architecture of DBMS. **5**

P.T.O.



- 4) a) What is ER diagram ? Explain ER diagram notations. 5
 b) Explain the types of attributes. 5
- 5) a) Explain SELECT query with syntax and example. 5
 b) Explain DML commands in sql with example. 5
- 6) a) What is normalization ? Explain 1NF. 5
 b) Explain any 3 Set operations. 5
- 7) a) What are the types of Relationship in DBMS ? Explain. 5
 b) Write SQL command for the following. 5
 i) To create the table.
 EMP (empno, ename, Salary, Desig)
 ii) To insert 5 records.
 iii) To display employee name and salary.
 iv) To display average salary of all employees.
 v) To display maximum salary of employees.
- 8) Write a note on :
 a) Aggregate Functions of SQL. 5
 b) DBA. 5