UNIVERSITY CENTRE FOR DISTANCE LEARNING (CDLU) SIRSA

BCA-2nd year

DATA STRUCTURE USING C (BCA-201)

ASSIGNMENT- 1

Attempt any five questions.All questions carry equal marks.   **Max Marks: 15**

1. What is need for Data structure? How is it classified?

2. Write a short note on complexity of an algorithm and time-space tradeoff.

3. Differentiate the adjacency and path matrix representation of a graph.

4. Write an algorithm for binary search and explain it with example.

5. Write an algorithm for Bubble sort and explain it with example.

6. Write an algorithm for Quick sort and explain it with example.

7. What is binary tree? Explain the properties of various types of binary trees.

8. Explain the traversal method of a graph.

9. What is a two way list? How can it be represented in memory?

10. Discuss the representations for a storing a string.

ASSIGNMENT -2

Attempt any five questions.All questions carry equal marks.   **Max Marks: 15**

1. Explain the brute force algorithm as one of the pattern matching algorithms.

2. Write an algorithm for inserting and deleting elements from an array.

3. What is linked list? Explain the applications of linked list.

4. Write an algorithm for linear search and explain it with example.

5. Write an algorithm for Selection sort and explain it with example.

6. Write an algorithm for insertion sort and explain it with example.

7. Explain the various methods of representing a binary tree in memory.

8. Explain warshall's algorithm with example.

9. Explain the second pattern matching algorithm by using an example.

10 Explain the variousways of maintaining a graph in a memory.

BCA-2nd year

COMPUTER ORGANIZATION & ARCHITECTURE (BCA-209)

ASSIGNMENT- 1

Attempt any five questions.All questions carry equal marks.   **Max Marks: 15**

1. Which gatesare called universal gates? Explain with diagram and truth table.

2. State and prove the De'Morgan's law

3. What is need of memory hierarchy? Explain.

4. State and explain the types of CPU registers used by CPU.

5. Statethe difference between RISC and CISC.

6. What is associative memory? Explain

7. Explain the locality of reference property and hit ratio for cache memory.

8. How the data can be read from and written into memory?

9. Explain the difference types of instruction formats.

10. What do you mean by addressing mode? Explainindirect register and index register addressing mode.

ASSIGNMENT- 2

Attempt any five questions.All questions carry equal marks.   **Max Marks: 15**

1. What is race-around condition? Which flip-flop used to avoid race condition?

2. Explain the BCD to Excess-3 code counter.

3. Differentiate between SRAM and DRAM.

4. Explain the difference types of addressing mode?

5. How data is organized into memory?

6. Explain the different types of interrupts.

7. Explain the working of DMA.

8. What do you mean by virtual memory? Explain it use.

9. Explain the different cache organization schemes.

10. Explain the different types of system Bus.

BCA-2nd year

Object Oriented Programming Using C++ (210)

Assignment 1

Attempt any five questions.All questions carry equal marks.   **Max Marks: 15**

1. Differentiate between procedure oriented and object oriented programming.

2. Explain different types of data types available in C++.

3. Explain the following terms: i) Data Abstraction ii) early and late binding.

4. What do you mean by friend function? Explain its use with help of program.

5. What is Inline function? Explain it using a program.

6. Define the usage of copy constructor with the help of program.

7. Explain the different types of access specifiers available in C++.

8. Differentiate between multiple and multilevel inheritance with example.

9. What is Polymorphism? Explain the use of virtual function.

10. Explain the looping statements.

Assignment 2

Attempt any five questions. All questions carry equal marks.   **Max Marks: 15**

1. Explain the User-Defined data types in C++.

2. Explain the following terms: - i) Encapsulation   ii) Data Hiding   iii) Dynamic Binding

3. Differentiate function overloading and function overriding with example.

4. Explain Call By Value and Call By Reference with the help of program.

5. What is the function of Destructor? Explain it using program.

6. What do you mean by Abstract class? How it differs from Concrete class?

7. How pointer can be used to achieve Run time polymorphism?

8. What is operator overloading? Write a program to overload the binary operator '+'.

9. What is use of Friend function? Explain with a program

10. Explain the Decision making constructs available in C++.

Database management System (211)

Assignment-1

Attempt any five questions.All questions carry equal marks. **Max Marks: 15**

1. Define database management system and explain various users ofDBMS?

2.What is role of database administrator?

3. Write various notations used in E-R model for database

4.What is mean by key? Explain foreign key with example.

5.What is relational algebra and explain various operations in relationalalgebra.

6. Describe Multi-value dependency with example

7.What is Normalization and explain first, second and third normal formwith example.

8.What is role of SQL in database?

9What is means by entity and explain various types of entity.

10. Explain the extension and intension of a relation.

Assignment-2

Attempt any five questions. All questions carry equal marks. **Max Marks: 15**

Q (1) What is data independency. Explain various types of independency indatabase.

Q (2) Explain three schema architecture of DBMS.

Q (3) explain E-R model with the help of example.

Q (4) explains following keys with the help of example:-(i) Candidate key(ii) Foreign key

Q (5) Explain the types of a structured query language for database.

Q (6) Explain various basic commands for table creation, updation in SQL.

Q (7) Explain relational model and what its advantages are.

Q (8) Explain the architecture of DBMS.

Q (9) Explain various constraints for database consistency.

Q (10) Explain second and third normal form with example.

System Analysis and Design (212)

Assignment-I

Attempt any five questions. All questions carry equal marks.   **Max Marks: 15**

1. What is system? Explain the different characteristics of a system.

2. Explain the role of a system analyst in System analysis.

3. What are Data Flow diagrams and Data dictionary?

4. What are different types of Forms driven Methodology? Explain.

5. What are different objectives considered for Data base Design?

6. What are the difference between Manual System and Automated System?

7. Discuss various types of testing strategies.

8. Explain the different steps involved in the maintenance phase.

Assignment-I

Attempt any five questions. All questions carry equal marks.   **Max Marks: 15**

1. What is Software Development Life Cycle? Discuss its various phases.

2. What are the difference between Logical and Physical Design?

3. Discuss the role of Data Base Administrator in designing a database.

4. What do you understand by testing? Why it is necessary to perform testing?

5. What is System? Discuss its various elements of a system.

6. Write the difference between Top-down and Functional Decomposition.

7. Explain the different types of systems.

8. What is major development activities involved in Database design?