

UNIVERSITY CENTRE FOR DISTANCE LEARNING (UCDL)
CHAUDHARY DEVI LAL UNIVERSITY, SIRSA
(From the academic session 2019-20)
MCA – 2nd SEMESTER
SUBJECT: C++ Programming
(MCA-21)
Assignment-I

Note: Attempt any five questions in all. First question is compulsory. All questions carry equal marks. Max. Marks: 15

Q1. A) Define constructor.

B) Class

C) Object

D) Function

E) Default arguments

Unit 1

Q2 What are the basic concepts of Object oriented programming?

Or

Write the importance of three aspects of Modeling.

Unit 2

Q.3 what is Inheritance and types of inheritance.

Or

Explain Aggregation, Association, and Generalization.

Unit 3

Q.4 what is difference between structure and class.

Or

Explain operator overloading with the help of program.

Unit 4

Q.5 what is Exception Handling. Explain in detail.

Or

Define Template class and template function.

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Assignment-II

Note: Attempt any five questions in all. First question is compulsory. All questions carry equal marks. Max. Marks: 15

Q1.a) Data Abstraction

- b) Abstract class**
- c) Static member function**
- d) Virtual function**
- e) Inline function**

Unit 1

Q2. What is the difference between Procedure oriented and Object oriented programming.

Or

Define Encapsulation with suitable examples

Unit 2

Q.3 what is Functional model- data flow diagram.

Or

Write a short note on Links and association, multiplicity.

Unit 3

Q.4 Explain constructors and destructors with the help of program.

Or

What is virtual class? Write a program to explain this concept.

Unit 4

Q.5 what is multiple inheritance and how it is achieved.

Or

What is a template how it is created explain with example.

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(From the academic session 2019-20)
MCA – 2nd SEMESTER
SUBJECT: DATA STRUCTURES USING C++
(MCA-22)
Assignment-1

Note: Attempt any five questions in all. First question is compulsory. All questions carry equal marks. Max. Marks: 15

- Q1.a) Single dimensional array**
b) Post fix notation
c) Pre order in tree
d) Directed graph
e) Binary Tree

Unit -1

Q2. What is a data type? Differentiate between primitive data type, abstract data type .

Or

What is data structure? Types of data structure.

Unit -2

Q3. What is stack? Write down the algorithm for pop an element into stack and explain it.

Or

Write down the algorithms for inserting an element into queue.

Unit-3

Q4. Explain tree with its traversing operations.

Or

What is binary search tree? Explain in detail

Unit-4

Q5. What is a graph? Write down the representation of graph.

Or

Write a short note on hashing algorithm.

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- Q1. a) Sparse Matrices**
b) Dequeue
c) Balanced Tree
d) Hashing
e) Queue

Unit-1

Q2. What is String Manipulation and representation?

Or

Define primitive and composite data structure.

Unit-2

Q3. What is stack? Write down the algorithm for pop an element into stack and explain it.

Or

Write down the algorithms for deleting an element into circular queue.

Unit-3

Q4. What is linear search? Write down the algorithm for it and explain it.

Or

Write an example to show the working of selection sort and also write its algorithm.

Unit-4

Q5. What is a graph? Write down the Applications of graph.

or

Write a short note on dynamic memory allocation.

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MCA – 2nd SEMESTER
SUBJECT: DATABASE SYSTEMS
(MCA-23)
Assignment-1

Note: Attempt any five questions in all. First question is compulsory. All questions carry equal marks. Max. Marks: 15

- Q1.a) SQL**
b) Entity
c) Abstraction
d) Transaction
e) Key Attribute

Unit-1

Q 2. What is DBMS and what are its advantage and disadvantage.

or

Difference between traditional and DBMS system

Unit-2

Q 3. Explain E-R model in detail.

or

What is key. Explain various types of keys used for database.

Unit-3

Q 4. What is data model and list various model with explain one model in detail.

or

What is key? Explain various types of keys used for database.

Unit-4

Q5. Differentiate relational algebra from relational calculus.

or

Compare 3NF with BCNF with the help of example.

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Assignment-II

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- Q1.a) Data integration**
b) UML
c) view
d) Locking technique
e) DBMS functions

Unit-1

Q2. What is the disadvantage of file system in compare to the database.

Or

Explain architecture of database management system with its components.

Unit-2

Q3. Explain network model in detail.

Or

Explain relationship with its types

Unit-3

Q4. Explain join in SQL with example

or

Explain relational and hierarchical data model.

Unit-4

Q5. Explain various types of functional dependencies with example.

or

Q Explain concurrency control techniques

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MCA – 2nd SEMESTER
SUBJECT: OPERATING SYSTEMS
(MCA-24)
Assignment-1

Note: Attempt any five questions in all. First question is compulsory. All questions carry equal marks. Max. Marks: 15

- Q1.a) Windows**
b) linux
c) paging
d) swapping
e) Process States

Unit-1

- 1. What is operating system? What are the functions of operating system?**

Or

- 2. What is a file? Discuss file attribute in details?**

Unit-2

- Q3. What is CPU scheduling? Explain its different types**

Or

Explain the protection mechanism in Operation System

Unit-3

- 3. discuss in detail :-**
a. deadlock avoidance
b. deadlock prevention

or

Explain the storage allocation methods in OS

Unit-4

- 4. What is deadlock? Describe the necessary condition of deadlock**

or

- 5. Write a note on Deadlock avoidance?**

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Assignment-II**

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- Q1.a) Mac**
b) Ms-Dos
c) android
d) PCB
e) Virtual Memory

Unit-1

Q2.what are the different types of operating system?

or

What do you mean by directories system in Operating System?

Unit-2

Q3. Define the given (i) Waiting time (ii) CPU time (iii) Turnaround time

or

Define revocation protection technique in UNIX

Unit-3

Q4. Define Thrashing and device scheduling policies

Or

Define Demand pegging

Unit-4

Q5.Define concurrent process and critical section

Or

What do you mean by inter-process communication? Discuss in details?

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MCA – 2nd SEMESTER
SUBJECT: DISCRETE MATHEMATICAL STRUCTURES
(MCA-25)
Assignment-1

Note: Attempt any five questions in all. First question is compulsory. All questions carry equal marks. Max. Marks: 15

- Q1.** a) Sub Group
b) Undirected Graph
c) Fields
d) Gate Circuits
e) Truth tables

Unit-1

- Q2.** What are groups? Discuss the various properties of Groups.
or
Discuss the various error correcting codes.

Unit-2

- Q3.** Compare and contrast directed and undirected graphs?
or
Discuss the various Minima's path applications with examples.

Unit-3

- Q4.** What are lattices and Hasse diagram?
or
Show that for any Boolean algebra B,
 $(a+b).(b+c).(c+a) = a.b+b.c+c.a$

Unit-IV

- Q5.** Explain:
(a) finite Fields
(b) Integral Domain
or
Prove that for a bounded distributive lattice L, the complements are unique if they exist.

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Assignment-II

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- Q1.)** a. What are grammars?
b. Adjacency Matrics
c) Incidence Matrics
d) Propositonal function
e) Co-sets

Unit-1

- Q2.** What do you understand by finite state machine? Discuss its properties.

or

What is modular arithmetic? Also discuss free semi groups.

Unit-2

- Q3.** What are Polish Notations? Explain.

or

Discuss the algorithm for determining cycle and minimal paths.

Unit-3

- Q4.** Consider the set $A = \{4, 5, 6, 7\}$. Let R be the relation \leq on A. Draw the directed graph and the HasseDiagram of R.

or

Explain Dijkstra's algorithm for shortest path in weighted graphs.

Unit-4

- Q5.** Explain :
(a) Irrudicible polynomial
(b) Splitting Field

or

Prove that the complement of every element on Boolean algebra B is unique.