**UNIT 1**

**Long Questions:**

1. Explain different fundamental features of Object-Oriented Database.
2. What do you mean by ORDBMS? Why is it also known as the extensions to SQL? How does ORDBMS support object-oriented features such as class, object, inheritance, and encapsulation? Explain with an example.
3. Describe the following OQL concepts: database entry points, path expressions, iterator variables, named queries (views), aggregate functions, grouping, and quantifiers.

**Short questions:**

1. Discuss the various type constructors. How are they used to create complex object structures?
2. What are the differences and similarities between objects and literals in the ODMG object model?
3. List the basic operations of the following built-in interfaces of the ODMG object model: Object, Collection, Iterator, Set, List, Bag, Array, and Dictionary.
4. What are the main differences between designing a relational database and an object database?
5. Describe the steps of the algorithm for object database design by EER-to OO (ODB Schema) mapping.
6. How is an object uniquely identified in OODBMS? What are features of unique identifier used in OODBMS? What are the main differences between persistent and transient objects?

**Unit 2**

**Long Questions:**

1. List the cost functions for the SELECT and JOIN methods.
2. How does a query tree represent a relational algebra expression? What is meant by an execution of a query tree? Discuss the rules for transformation of query trees, and identify when each rule should be applied during optimization.
3. Explain External shorting algorithm with example.
4. Explain the different algorithms for select and join operation.

**Short questions:**

1. Explain in brief about query processing and optimization? Also explain about query execution plan.
2. What is meant by the term heuristic optimization? Discuss the main heuristics that are applied during query optimization.
3. What is meant by cost-based query optimization? Mention the different factors that are considered on estimation of cost of execution plan.
4. What is the difference between pipelining and materialization?
5. Discuss the cost components for a cost function that is used to estimate query execution cost. Which cost components are used most often as the basis for cost functions?
6. Explain in brief about operator level, intraquery and interquery parallelism.