71 Questions total

70 Multiple Choice Questions 15 True or False

55 Traditional

1 Identify parts of a Diagram

## Chapter's 1-2-3:

- Terminology
  - o Database
  - o DBMS / RDBMS
  - o Record
  - Attribute Domain
  - Entity Set

## • Reasons / Advantages of DBMS

- o Vs. File System
  - Data independence
  - Controlled redundancy
- Promote data integrity
  - Reduce anomalies
- Logical vs. Physical Design
- How Used:
  - Single User
  - o Workgroup
  - $\circ$  Distributed
- Different Models
  - o Hierarchy -- parent/child (navigational)
  - Network -- sets
  - o Object Oriented -- inheritance/class diagram
  - Relational -- structural independence
    - Attributes / tuples / rows (terminology issues)

structurally dependent "islands of information"

- o Big Data
  - For large amounts of data
    - Web and sensor generated
  - Does not use conventional structures
  - Expensive / requires extensive programming
- $\circ$  NoSQL
  - Not based on relational model
  - Supports distributed data architectures
  - Designed for performance rather than transaction consistency
  - Uses key-value vs. traditional key structure
- Data Integrity issue Transactional Data Oriented
- Features
  - Security
  - Dictionary Mgt.
  - o Access control
  - o Backup/Recovery
  - Querying (SQL)
    - DDL --- DML
- Relational Database
  - Conceptual
  - o Logical
  - Physical
- Keys:
  - Primary Key -- Entity Integrity / Composite Keys
  - Foreign Key Referential Integrity
  - Secondary Key Search Capability
  - o Candidate Key / Super Key
  - $\circ$  Index Not the same but part of key
- Relational Algebra
  - Union (UC)
  - o Intersect
  - Difference
  - Product
  - o Select

- o Join
  - Natural
  - Inner
  - Outer
    - Left
    - Right

- ER Model
  - $\circ~$  Chen / Crow's Foot
    - Entity / Relationship / Join Line
  - Cardinality
    - 1:1
    - 1:M
    - M:N
  - Relationship -- Connects entities
    - Controlled Redundancy
    - Modes
      - Unary
      - Binary
      - Ternary