**Asian School of Management and Technology**

(Affiliated to Tribhuvan University)

Gongabu, Kathmandu

**Full Marks: 60**

**Time: 3 Hrs.**

**SET A**

**Preboard Examination 2081**

**BIM / Fourth Semester / IT 220: Database Management System  
D**

***Candidates are required to answer the question in their own words as far as practicable.***

**Group “A”**

**Brief Answer Question**

**Attempt All Questions [10\*1=10]**

* 1. Define atomic attribute.
  2. What do you mean by generalization?
  3. What are the aggregate functions that are used in Relational algebra?
  4. What do you mean by sophisticated user?
  5. What is instances?
  6. Define view in database.
  7. What is transaction?
  8. Define NOT NULL?
  9. Why do we need EER diagram?
  10. What is distributed databases?

**Group “B”**

**Short Answer Question**

**Attempt Any Five Questions [5\*3=15]**

* 1. What are the limitations of file processing system?
  2. Define database language? Explain different types of database languages.
  3. What are the major role of DBA?
  4. Explain, Timestamp Ordering Concurrency Control Techniques.
  5. Explain concept of warehousing and Data Mining.
  6. Describe tuple relational calculus with syntax.

**Group “C”**

**Long Answer Questions**

**Attempt Any Three Questions [3\*5=15]**

1. Draw ER-diagram of online book ordering system.
2. Consider the following relational database

Suppliers(sid, sname, city)

supplies(sid, pid, quantity)

parts(pid, pname, color, weight)

Write Relational Algebra and SQL queries

1. Display all record of parts in an ascending order.
2. Find the name of all suppliers located in city Pokhara that supplies part p001 Find the name of all parts supplied by KMS
3. Find the name of all parts that are suppied in quantity greater than 300
4. Find number of parts supplied by A03
5. Find the number of parts supplied by each supplier.
6. Explain three schema architecture of database management system.
7. Explain how database can be recovery from catastrophic failures.

**Group “D”**

**Comprehensive Question**

**Attempt All Questions [2\*10=20]**

1. Why do we need Normalization? Explain 1NF, 2NF, 3NF and BCNF with suitable example.
2. What is concurrency control? What are the importance of concurrency control? Explain the properties of transaction.

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