

**ACADEMIA INTERNATIONAL COLLEGE**

(Affiliated to Tribhuvan University)

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**E N D T E R M E X A M I N A T I O N - 2 0 7 0**

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**CLASS: B.Sc. CSIT FOURTH SEMESTER**

**FULL MARKS: 60**

**SUBJECT: DATABASE MANAGEMENT SYSTEM/ CSC-253**

**PASS MARKS: 24**

**TIME: 3 HOURS**

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All questions are compulsory. Use your own words as far as practicable.

**SET A**

1. Write typical SQL queries for the relational table (*any Four*): [4\*2=8]
  - a. To create a table **Emp** with **eid** as a primary key.
  - b. To delete a record where the **salary** of employee is greater than 12000.
  - c. Retrieve the **name** of employees' who were hired after 2001.
  - d. Drop the column **age** from **Emp**.
  - e. Put the constraint such that the **section-no** is in between 2 and 122.
  
2. Why is normalization necessary for database development? Why do we need denormalization too? [5+3]
  
3. Construct an E-R diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted. [8]
  
4. Write short notes on(*Any Two*): [2\*5=10]
  - a. Aggregation
  - b. Cascading rollback
  - c. Trigger
  - d. Query By Example(QBE)
  
5. How is shadow paging used for recovery purpose? Explain. [6]
6. What do you mean by locks? Why do we need them? Explain two phase locking protocol (2PL). [2+2+4]
7. Compare and contrast view and conflict serializability. [3+3]
8. What do you mean by Armstrong's axioms? Explain. [6]