

B. N. Bandodkar College Of Science, Thane  
F.Y.B.Sc. Second Semester END Examination, March 2012  
USIT204

**Duration: 2 Hrs**

**Total**

**Marks: 60**

- Note:
1. All questions are compulsory.
  2. Figures on the right indicate maximum marks
  3. Make suitable assumptions wherever required and state it clearly.

- Q. 1**      *Attempt any two of following* **10**
- a Explain the concepts of relational database
  - b What is DBMS (Data Base Management System)? Where it is used?
  - c Write the different levels of data abstraction.
- Q. 2**      *Attempt any two of following* **10**
- a What do you mean by business rules?
  - b Explain entity set and relationship set with example.
  - c Construct an ER Diagram for banking system and convert its entities into tables.
- Q. 3**      *Attempt any two of following* **10**
- a Explain different types of attributes.
  - b What are primary key and foreign key? How do you set it to existing file?
  - c Explain 1NF (Normalization Form), 2NF and 3NF.
- Q. 4**      *Attempt any two of following* **10**
- a Explain various SET operators in relational algebra.
  - b Explain Selection, Projection operation in relational calculus.
  - c Explain inner join, cross join and natural join in relational algebra.
- Q. 5**      *Attempt any two of following* **10**
- a Explain multiple row subquery with example.
  - b Explain all types of aggregate functions with example.

c Explain outer joins and inner join.

**Q. 6** *Attempt any two of following*

**10**

a What is ACID property?

b What is deadlock? How it is detected?

c Explain Timestamp based protocol.

~ \* ~ \* ~ \* ~ \* ~ \* ~