B. N. Bandodkar College of Science, Thane

S. Y. B. Sc. Semester I Examination, October 2014

Course Code: USCS303

Duration: 2 ½ Hrs. **Total Marks: 75**

Note: **i. All questions are compulsory.**
ii. Figures on right indicate maximum marks.

Q. 1 **Answer the following**

a Explain following terms:- **8**
(i) Primary Key (ii) Candidate Key (iii) Foreign Key (iv) Super Key

OR

a Explain the advantages and disadvantages of **8**
i. Relational model ii. Network model

b Define normalization? Explain 1NF, 2NF, 3NF and BCNF? **7**

OR

b Difference between database management system and file management system **7**

c Write note on Data Abstraction. **5**

OR

c Draw an E-r diagram for bank **5**
Costumer → C.Name, C_ID, Address, Account no Loan → loan no, amount
Branch → Branch, assets Account → Account no, Balance, Branch

Q. 2 **Answer the following**

a Explain following date functions with syntax and examplle. **8**
Add_months(), Last day(), months_between(), next_day()

OR

a With an example explain Inner Join and Outer Join **8**

b What is sub query? What is a nested sub query? Explain the use of IN and EXIT operator in subquery. **7**

OR

b Explain following string functions with an example **7**
i) LOWER ii) UPPER iii) LTRIM iv) RTRIM

c With an example, explain the syntax of **5**
i) ALTER ii) UPDATE iii) DROP

OR

c Write note on i) Selection ii) Projection **5**

Q. 3 **Answer the following**

a Write notes on i) Hash and Tree based indexing ii) Clustered Files **8**

OR

a What is stored procedure? How stored procedures are executed? How to alter stored procedure? **8**

b Why Views are created? How view provides Data Independence? How to drop a view? **7**

OR

b What is trigger? Why to create trigger? What are the types of triggers? With an example, explain how to create trigger? **7**

c Differentiate between tables and views. **5**

OR

c What is index? Explain advantages of index. **5**

Q. 4 **Attempt *any three* of the following** **15**

a Differentiate between binary and ternary relationship.

b What is entity? How entities are different than the attributes?

c Explain CHECK and DEFAULT constraints in detail.

d Write note on Having Clause

e With an example, explain nested triggers.

f What is primary and secondary indexing?