

**B. N. BANDODKAR COLLEGE OF SCIENCE, THANE**  
F.Y.B.Sc. (INFORMATION TECHNOLOGY) SEMESTER – II ADDITIONAL EXAMINATION;  
JUNE 2015  
COURSE CODE– USIT204

**Duration: 2½ Hrs**

**Marks: 75**

**Total**

**N.B. 1. All questions are compulsory.**

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|-------------|---|-----------|
| <b>Q. 1</b> | <b>Answer any two out of following</b>                                    | <b>10</b> |
|             | <b>a</b> What is DBMS (Data Base Management System)? Where it is used?    |           |
|             | <b>b</b> Draw database architecture? Explain Data Dictionary?             |           |
|             | <b>c</b> Write a short note on transaction management?                    |           |
|             | <b>d</b> Write a short note on view of data?                              |           |
| <b>Q. 2</b> | <b>Answer any two out of following</b>                                    | <b>10</b> |
|             | <b>a</b> Explain different functions of database administrators?          |           |
|             | <b>b</b> List basic building blocks of data model?                        |           |
|             | <b>c</b> Explain entity set and relationship set with example.            |           |
|             | <b>d</b> Write a short note on DML?                                       |           |
| <b>Q. 3</b> | <b>Answer any two out of following</b>                                    | <b>10</b> |
|             | <b>a</b> Write short note on weak entity set.                             |           |
|             | <b>b</b> Define Normalization? Explain 1NF, 2NF with appropriate example? |           |
|             | <b>c</b> Explain different types of attributes.                           |           |
|             | <b>d</b> Explain specialization with appropriate example?                 |           |
| <b>Q. 4</b> | <b>Answer any two out of following</b>                                    | <b>10</b> |
|             | <b>a</b> Explain joins in relational algebra?                             |           |
|             | <b>b</b> Write a short note on Tuple relational calculus?                 |           |
|             | <b>c</b> Explain various SET operators in relational algebra.             |           |
|             | <b>d</b> Explain outer join and natural join.                             |           |
| <b>Q. 5</b> | <b>Answer any two out of following</b>                                    | <b>10</b> |
|             | <b>a</b> Explain multiple row subquery with an example.                   |           |
|             | <b>b</b> Explain view? And the constraints on view?                       |           |
|             | <b>c</b> What is Trigger? Explain types of triggers.                      |           |

**d** Explain referential integrity with appropriate example?

**Q. 6** Answer *any two out of following*

**10**

**a** Write a short note on locks and its type?

**b** Explain time stamping method?

**c** Write any three problems caused by concurrent execution.

**d** Explain Timestamp based protocol.

**Q. 7** Answer *any three out of following*

**15**

**a** Differentiate between database systems and file system.

**b** Discuss merits and demerits of relational model.

**c** Write any five Dr. E F.Codd's rules.

**d** Explain grouping operations of relational algebra?

**e** Compare tables and views?

**f** What is deadlock? How it is detected?

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