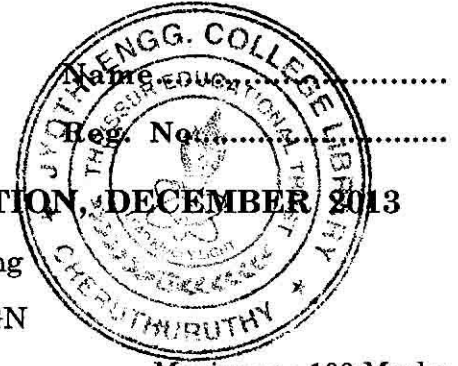


**D 51958**



**FIRST SEMESTER M.TECH. DEGREE EXAMINATION, DECEMBER 2013**

Computer Science and Engineering  
MCS 10 103—DATABASE DESIGN

Time : Three Hours

Maximum : 100 Marks

*Answer any five full questions.*

1. (a) Explain the characteristics of DBMS. (8 marks)  
(b) Explain the organization in detail. (12 marks)
2. (a) Discuss about various types of database users. (5 marks)  
(b) Explain the following :—
  - (i) Relationship set. (ii) Cardinality.
  - (iii) Structural constraints. (iv) Roles.(15 marks)
3. (a) Explain the basic structure of relational database. (5 marks)  
(b) Explain various relational integrity constraints. (15 marks)
4. (a) Explain about nested subquery with an example. (5 marks)  
(b) With a suitable example show how E-R to relational mapping is done. (15 marks)
5. (a) Explain about extraneous attributes. (5 marks)  
(b) Explain the following :—
  - (i) 4NF ; (ii) 5NF. (15 marks)
6. (a) Differentiate between 3NF and BCNF. (10 marks)  
(b) What are functional dependencies ? Explain Armstrong's axioms. (10 marks)
7. (a) Explain cross tabulation with an example. (5 marks)  
(b) Explain ODMG object model. (15 marks)
8. (a) Explain about association rules. (10 marks)  
(b) Explain about data warehouses and its design issues. (10 marks)