

2005

(July)

LIBRARY AND INFORMATION SCIENCE

(Database Management System)

Course No. : 201

Full Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer **all** questions

1. (a) Define database system concept and database system architecture. $7\frac{1}{2} \times 2 = 15$

Or

- (b) Describe the concept of Entity Relationship (ER) model with suitable illustrations. 10+5

2. (a) What do you understand by the Relational Data Model and Relational Constraints? 10+5

Or

- (b) Discuss Enhanced Entity Relationship (EER) with suitable examples. 10+5

3. (a) What is object-oriented database?
Discuss its features. 5+10

Or

- (b) Describe the various features of
database security. 15

4. (a) What is relational database standard?
Describe SQL as relational database
standard. 10+5

Or

- (b) What do you understand by
normalisation for relational database?
Explain 1NF, 2NF and 3NF
normalisation forms. 5+10

5. Write short notes on any two of the
following : $7\frac{1}{2} \times 2 = 15$

- (a) Metadata
- (b) Data Mining
- (c) Emerging Database Technologies
- (d) Functional Dependencies

2006

(July)

LIBRARY AND INFORMATION SCIENCE
(Database Management System)

Course No. : 201

Full Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Define database. Describe the concept of database system architecture and data independence. 5+10

Or

Describe ER model. Define entity types, entity sets, attributes and keys with suitable illustrations. 5+10

2. What is object identity and object structure? Illustrate the concepts of type constructors with suitable illustrations. 7½+7½

Or

What is object-oriented database? Describe the concept of encapsulation, operator polymorphism, identical and equal objects. 5+10

3. What is EER model? Discuss the concept of class and specialization. 5+10

Or

Describe the concept of relational model. Discuss the concept of domain, relational schema and relation state with suitable illustrations. 5+10

4. What are the characteristics of relations in a relational database? Discuss. $7\frac{1}{2}+7\frac{1}{2}$

Or

Describe the degree of relationship, role names and recursive relationships with suitable illustrations. 15

5. What is database security? Describe the types and levels of security. $7\frac{1}{2}+7\frac{1}{2}$

Or

What are functional dependencies? Discuss the process of normalization for relational database. $7\frac{1}{2}+7\frac{1}{2}$

2007

(July)

LIBRARY AND INFORMATION SCIENCE

(Database Management System)

Course No. : 201

Full Marks : 75

Time : 3 hours

*The questions are of equal value*Answer **all** questions

1. (a) The database concept "unfortunately tends to be multifaceted and complex subject, which appears difficult when one attempts to swallow it in one gulp. But database is approachable and understandable, if one proceeds carefully, cautiously and progressively step-by-step". Justify the statement.

Or

(b) What do you mean by Data Modelling? Explain the various levels of data modelling.

2. (a) What do you mean by Entity Relationship? How is this relationship enhanced?

Or

(b) Discuss Object Modelling by using a standard modelling language.

3. (a) What is a Relational Database? Explain the process of developing a relational database with examples.

Or

(b) Define Object-Oriented Database and discuss the techniques used to develop such a database.

4. (a) Explain the various levels of normalization for a relational database.

Or

(b) What is Metadata? Describe its application in bibliographic database.

5. Write short notes on any *two* of the following :

(a) Record storage

(b) Index structure for files

(c) Data warehousing

(d) Data mining

2008

(July)

LIBRARY AND INFORMATION SCIENCE

(Database Management System)

Course No. : 201

Full Marks : 75

Time : 3 hours

*The questions are of equal value*Answer **all** questions

1. Define 'Database' and give an outline of 'Database System Architecture' with the help of a diagram.

OR

2. Explain the different aspects of Primary File Organization with examples.
3. Discuss in brief the various constraints in designing a Database.

OR

4. Differentiate Entity Relationship (ER) from Enhanced Entity Relationship (EER) with suitable examples.

5. What is EER? Describe the various features of EER model.

OR

6. What do you mean by Database Standards? Briefly explain SQL as a Database Standards with appropriate examples.
7. Explain the different procedural steps required to be followed in Designing a Database.

OR

8. What is object-oriented database? Discuss the functions and features of object-oriented database.
9. Write an essay on Data Warehousing.

OR

10. Write short notes on any *two* of the following :
- (a) Functional Dependencies
 - (b) Database Security
 - (c) Record Storage
 - (d) Data Normalization

2009

(July)

LIBRARY AND INFORMATION SCIENCE

Course No. : 201

(Database Management System)

Full Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer **all** questions

1. What is database? Describe the components of database and the concept of data abstraction. 5+5+5

OR

2. Describe database system architecture and the main types of data independence. 7½+7½
3. What is entity? Describe the types of attributes associated with ER model. 5+10

OR

4. What is EER model? Discuss the additional concepts introduced with EER model. 5+10

5. Discuss the characteristics of relations with appropriate examples and illustrations. 15

OR

6. What is relationship? Discuss relationship degree, role names and recursive relationship. 5+10

7. Define functional dependencies mentioning inference rules and minimal sets. 5+10

OR

8. Define normalization mentioning the first, second and third form of normalization. 5+10

9. What is object-oriented database? Describe object identity, object structure and type constructors. 5+10

OR

10. Discuss various issues associated with database security and integrity. $7\frac{1}{2}+7\frac{1}{2}$

OR