

XAVIER INSTITUTE OF ENGINEERING
DEPARTMENT OF INFORMATION TECHNOLOGY

QUESTION BANK 1-Marking Scheme (Chapter 1, 2, 3)

Subject: DBMS

Date: 13th July 18

Class/Semester: SE/III

(Chapter 1) (CO1)

1. Define Data Independence and explain types of data Independence. (5M) (BTL-1, 2)
Rubrics: Definition-1, Types- 1, definition of types: 2, example of types: 1
2. Design and explain database system structure. (5M) (BTL-6)
Rubrics: Architecture-2, Explanation- 3
3. Differentiate between a file processing system and DBMS. (5M) (BTL-4)
Rubrics: Each difference -1 mark
4. Explain advantages of DBMS over File system. (5M) (BTL-4)
Rubrics: drawbacks of file system-2, characteristics of DBMS- 3
5. Define a database? Explain with examples. Also list the advantages of database system. (5M) (BTL-1, 2)
Rubrics: Definition-1, example-1, advantages- each point 1(total 3)
6. List and explain all the characteristics of database system. (5M) (BTL-1, 4)
Rubrics: list-1, explanation of any four characteristics-4
7. Define instance and schema with example. (5M) (BTL-1)
Rubrics: Definition-2, Example-2, Notation-1
8. Discuss different Users of Database System. (5M) (BTL-2)
Rubrics: each user type with explanation-1

(Chapter 2) (CO2)

1. Define following terms with suitable example (BTL-1)
Rubrics: definition-1, notation-0.5, example-1
 - a. Strong entity sets (2.5M)
 - b. Derived attribute (2.5M)
 - c. Foreign key (2.5M)
 - d. Primary key. (2.5M)
 - e. Total participation (2.5M)
 - f. Weak entity sets (2.5M)

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- g. Attributes (2.5M)
- h. Relationship sets (2.5M)

- 2. Summarize different keys in ER diagram? (5M) (BTL-5)
Rubrics: types of keys-1, notations-1, example-3

- 3. Explain different types of attributes in ER Model. (5M) (BTL-2, 4)
Rubrics: types of attributes-1, notations-1, example-3

- 4. Explain the terms total participation and partial participation with example. (5M) (BTL-4)
Rubrics: definition-1, notations-1, example-3

- 5. Differentiate between Generalization and Specialization. (5M) (BTL-4)
Rubrics: definition-1, notations-1, example-3

- 6. We can convert any entity set to a strong entity set by simply adding appropriate attributes. Why then, do we have weak entity sets? (Justify your answer.) (5M) (BTL-5)
Rubrics: definition of strong and weak entity set-2, justification-3

- 7. Compare ER and EER models. (5M) (BTL-4)
Rubrics: any five points-5

(chapter 3) (CO2)

- 1. Explain the steps of an algorithm for ER to relational mapping/model in detail. (5M) (BTL-4)
Rubrics: entity (strong and weak) conversion-2, relationship conversion-1, generalization/specialization conversion-1, attributes conversion-1

- 2. Explain following relational algebra operations with proper examples. (BTL-2)
Rubrics: definition-1, notation-0.5, example-1
 - a. Project (2M)
 - b. Left outer join (2M)
 - c. Division (2M)
 - d. Rename (2M)
 - e. Natural join (2M)
 - f. Set-Intersection operation (2M)
 - g. Union (2M)
 - h. Assignment (2M)
 - i. Generalized Projection (2M)
 - j. Select (2M)

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3. Explain different types of operators in relational algebra. (5M) (BTL-4)
Rubrics: any five types of operators with definition, notation and example-5

4. Define a JOIN? Explain different types of JOIN along with example. (5M) (BTL-4)
Rubrics: definition-1, any four joins with notation and example-4

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