A3.2

Database design

CHAPTER ASSIGNMENT · 15 MARKS

Name _____ Class _____ No. _____ Date _____

Answer every question in the space given. Show your working. You may use the chapter page to help you.

Questions from the Guru Jazzy chapter page, for classroom use.

Exam-style questions

1 Define the term “schema”. [1]

2 Distinguish between a conceptual schema and a logical schema. [2]

3 Identify two issues caused by data redundancy. [2]

4 State the requirements of 1NF, 2NF and 3NF. [3]

5 A table has Loan(LoanID×, BookID, BookTitle, MemberID, MemberName). Normalize it to 3NF. [4]

6 Evaluate denormalizing a data warehouse. [3]

Chapter quiz

Q1 Which schema defines keys and data types without naming a DBMS?

A	B	C	D
Conceptual	Logical	Physical	External

Q2 Where would you find an index defined?

A	B	C	D
Physical schema	Conceptual schema	An ERD only	A form

Q3 Modality describes...

A	B	C	D
The minimum instances in a relationship	The maximum instances	The data type	The primary key

Q4 Cardinality describes...

A	B	C	D
The maximum instances in a relationship	The table name	The minimum only	The colour of the ERD

Q5 A value in 1NF must be...

A	B	C	D
Atomic	Numeric	Unique everywhere	Encrypted

Q6 Partial dependencies can only appear with...

A	B	C	D
A composite primary key	A single-field key	A BOOLEAN	Any foreign key

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Q7 In (OrderID×, CustomerID, CustomerCity), what breaks 3NF?

A	B	C	D
CustomerCity depends on CustomerID	OrderID is unique	There are three columns	Nothing

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Q8 Which suits denormalizing?

A	B	C	D
A read-heavy reporting system	A bank’s balance updates	Very frequent edits	Small simple tables

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End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/ib-computer-science/a3-2-database-design/