

NEP - Semester End Examination – October 2025

Program:	FYBSC CS SEM I	Course:	Fundamental of Database Systems
Program Code:	UGCS02	Course Code:	NUCS102

Duration: 1 Hour Max. Marks: 30

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat diagrams wherever necessary.

Q. 1	Attempt any TWO of the following.	[10]	Course Outcome	Knowledge Level
	(a) Identify and draw the basic E-R diagram structure for a Bank Management System.		CO2	L1
	(b) Describe the purpose of UNIQUE and DEFAULT constraints in SQL with suitable examples.		CO1	L2
	(c) Apply the projection operator in relational algebra to retrieve specific attributes from a given relation.		CO1	L3
	(d) Design a diagram to illustrate different levels of data abstraction in a DBMS and label each level clearly.		CO1	L6
Q. 2	Attempt any TWO of the following.	[10]	Course Outcome	Knowledge Level
	(a) Explain different types of DDL statements used in SQL with appropriate examples.		CO3	L2
	(b) Define various types of attributes used in E-R diagrams and explain their notations with examples.		CO2	L1
	(c) Demonstrate how to insert a new record into a database table using an SQL INSERT statement.		CO3	L2
	(d) Assess the importance of normalization in database design and evaluate a table to convert it into 1NF.		CO4	L5
Q. 3	Attempt any TWO of the following.	[10]	Course Outcome	Knowledge Level
	(a) Explain the use of various mathematical functions in SQL with examples.		CO3	L2
	(b) List and describe the different data types available in SQL with examples.		CO3	L1

	(c)	Show how commit operations work in SQL when performing DDL statements.		CO4	L3
	(d)	Construct a SQL query using a subquery to filter data based on a condition, and explain its working.		CO3	L6

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