

K. J. Somaiya Institute of Technology, Sion, Mumbai-22  
(Autonomous College Affiliated to University of Mumbai)

May-June 2024		
B.Tech Program: AI-DS      Scheme IIB		
<i>Supplementary Regular</i> Examination: SY Semester: IV		
Course Code: AIC403 and Course Name: Database Management Systems		
Date of Exam: <i>30/07</i> 2024	Duration: 2.5 Hours	Max. Marks: 60

Instructions:				
(1) All questions are compulsory.				
(2) Draw neat diagrams wherever applicable.				
(3) Assume suitable data, if necessary.				
		Max. Marks	CO	BT level
<b>Q 1</b>	<b>Solve any six questions out of eight:</b>	<b>12</b>		
i)	Give the advantages of DBMS over file system	2	1	U
ii)	List the types of relationships.	2	2	U
iii)	List the different types of keys	2	2	U
iv)	List the advantages of Relational Model	2	3	U
v)	List the data control commands with respect to SQL	2	4	U
vi)	List the terminologies used in normal forms.	2	5	U
vii)	List the states of the transaction	2	6	U
viii)	List the aggregate functions with respect to SQL	2	4	U
<b>Q.2</b>	<b>Solve any four questions out of six</b>	<b>16</b>		
i)	What are the users of the database system ?	4	1	U
ii)	What is a transaction? Explain its ACID properties?	4	6	U
iii)	Explain the applications of DBMS?	4	1	U
iv)	Explain Set Operations in SQL with example?	4	4	U
v)	Explain various types of Attributes with an example.	4	2	U
vi)	Draw an E-R diagram for Banking Enterprise ?	4	2	Ap
<b>Q.3</b>	<b>Solve any two questions out of three.</b>	<b>16</b>		



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i)	Write an SQL query for the following: a. Create a table for Hospital database with minimum 5 fields b. To insert two new records c. To add new column d. To display all records	8	4	Ap
ii)	Explain different SQL DDL commands with examples.	8	4	U
iii)	Define normalization? Explain 1NF, 2NF, 3NF and BCNF?	8	5	U
<b>Q.4</b>	<b>Solve any two questions out of three.</b>	<b>16</b>		
i)	Write short note on : “ Views in SQL ”	8	4	U
ii)	Explain following relational algebra operations with suitable example: a. Cartesian Product b. Outer Join c. Projection d. Set Difference e. Rename	8	3	U
iii)	Explain in detail the overall architecture of DBMS with the diagram	8	1	U

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