

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

May-June 2026

B. Tech Program: EXTC Scheme :- III Examination: TY Semester: VI

Course Code: EXDLC6034

and

Course Name: Database Management System

Date of Exam: 20.05.26

Duration: 02.5 Hours

Max. Marks: 60

Instructions: (1) All questions are compulsory.
 (2) Draw neat diagrams wherever applicable.
 (3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any two questions out of three: (05 marks each)	10		
a)	Explain the users of database system?		CO1	U
b)	Draw an E-R diagram for Banking Enterprise ?		CO2	A
c)	Explain 1NF, 2NF, 3NF with suitable example?		CO3	U
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Write note on shared and exclusive lock. what are the problems in S/X locking		CO6	U
b)	Construct UML class diagram for a Library Management System.		CO4	A
c)	Explain with the schedule may not free from starvation in 2PL system.		CO5	U
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	Explain SQL Data Definition Commands with examples?		CO1	U
b)	Explain various types of Attributes with example ? Also Compare Strong Entity and Weak Entity Set with suitable example.		CO2	U
c)	Explain Network model with suitable example. In relation R(ABCDEF), functional dependencies are given, FD {AB → C, C → D, C → E, E → F, F → A }, What is the candidate key? Write prime and non-prime. Explain Candidate key and foreign key with database.		CO3	U
Q.4	Solve any two questions out of three. (10 marks each)	20		
a)	Explain Security levels and Authorization in detail?		CO4	U
b)	Explain different states of transaction with diagram in detail.		CO5	U
c)	Explain two phase locking protocol with example. State its advantages and disadvantages.		CO6	U