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

July/Aug ~~May-June~~ 2025
B.Tech Program: AI-DS Scheme III
Supplementary ~~Regular~~ Examination: SY Semester: IV
Course Code: AIC402 and Course Name: Database Management Systems
Date of Exam: ~~24/05/2025~~ 30/07/25 Duration: 2.5 Hours Max. Marks: 60

	it is a conflict serializable schedule. S1: R1(A), R2(B), W2(B), W1(A), R1(B),W1(B), R2(A), W2(A) S2: R1(X), W1(X), R3(Y), W3(Y), R2(Z), W2(Z) S3: R1(X) → W2(X) → W1(Y) → R3(X) → W3(Y)			
ii)	You are designing a database for a **movie streaming platform** that involves **users**, **subscriptions**, and **movies**. A user can have one subscription plan and can watch many movies. A movie can be watched by many users. **Tasks:** a) Identify at least three entities with attributes and primary keys. b) Define and describe the relationships and their types. c) Draw a complete ER diagram. d) Suggest and represent a constraint such as uniqueness or participation.	10	2	Ap
iii)	For the given relational schemas draft appropriate relational algebra queries: Student(SID, SName, DeptID) Department(DeptID, DeptName) Enrolled(SID, CourseID) Course(CourseID, CourseName, DeptID) a. List names of all students. b. List names of students enrolled in at least one course. c. List names of students not enrolled in any course. d. List student names and their department names. e. Find names of students enrolled in courses offered by the 'Computer Science' department.	10	3	Ap
Q.4	**Solve any two questions out of three. (10 marks each)**	**20**		
i)	Explain with example, the DDL commands CREATE, ALTER, DELETE and DROP.	10	4	U
ii)	What is normalization? Explain 1NF, 2NF, 3NF with suitable examples.	10	5	U
iii)	What concurrency anomalies (lost update, inconsistent retrievals, uncommitted dependency) are possible if there is no concurrency control?	10	6	U

****

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

July/Aug ~~May-June~~ 2025
B.Tech Program: AI-DS Scheme III
Supplementary ~~Regular~~ Examination: SY Semester: IV
Course Code: AIC402 and Course Name: Database Management Systems
Date of Exam: ~~24/05/2025~~ 30/07/25 Duration: 2.5 Hours Max. Marks: 60

	it is a conflict serializable schedule. S1: R1(A), R2(B), W2(B), W1(A), R1(B),W1(B), R2(A), W2(A) S2: R1(X), W1(X), R3(Y), W3(Y), R2(Z), W2(Z) S3: R1(X) → W2(X) → W1(Y) → R3(X) → W3(Y)			
ii)	You are designing a database for a **movie streaming platform** that involves **users**, **subscriptions**, and **movies**. A user can have one subscription plan and can watch many movies. A movie can be watched by many users. **Tasks:** a) Identify at least three entities with attributes and primary keys. b) Define and describe the relationships and their types. c) Draw a complete ER diagram. d) Suggest and represent a constraint such as uniqueness or participation.	10	2	Ap
iii)	For the given relational schemas draft appropriate relational algebra queries: Student(SID, SName, DeptID) Department(DeptID, DeptName) Enrolled(SID, CourseID) Course(CourseID, CourseName, DeptID) a. List names of all students. b. List names of students enrolled in at least one course. c. List names of students not enrolled in any course. d. List student names and their department names. e. Find names of students enrolled in courses offered by the 'Computer Science' department.	10	3	Ap
Q.4	**Solve any two questions out of three. (10 marks each)**	**20**		
i)	Explain with example, the DDL commands CREATE, ALTER, DELETE and DROP.	10	4	U
ii)	What is normalization? Explain 1NF, 2NF, 3NF with suitable examples.	10	5	U
iii)	What concurrency anomalies (lost update, inconsistent retrievals, uncommitted dependency) are possible if there is no concurrency control?	10	6	U

****