DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ANNA UNIVERSITY

B.E. COMPUTER SCIENCE AND ENGINEERING (BATCH – Q)

FOURTH SEMESTER

(DECEMBER 2025 TO APRIL 2026)

CS23401: DATABASE MANAGEMENT SYSTEMS

ACTIVITY – II (24.12.2025)

Q. No	Questions
1	Consider the following relations:

FACULTY

FCODE	NAME	BASIC	DCODE
10050	ABRAHAM	50000	101
10074	MATHEW	50000	101
10099	MARY	40000	
10021	MANJU	40000	
10009	PREETHI	30000	

DEPARTMENT

DCODE	DNAME
101	COMPUTER SCIENCE
102	GEOLOGY
103	DATA ANALYTICS
104	MACHINE LEARNING
105	DATA SCIENCE

Q. No	Questions
(a)	Develop DDL to implement the above Schema specifying appropriate data types for each attribute enforcing primary key and foreign key constraints.
(b)	Populate the database with the data set presented above.
(c)	Illustrate Cartesian product, equi join, left outer join, right outer join and full outer join.
2	Consider the following relational schema for a Company Database Application:
	STAFF (**STAFFNO**, SNAME, DOB, GENDER, DOJ, DESIGNATION, BASIC_PAY, DEPTCODE) GENDER must take the Value 'M' or 'F' DEPARTMENT (**DEPTCODE**, DNAME) SKILL (**SKILL_CODE**, SNAME, CHARGE_OUTRATE) Charge-out rate is the hourly price a service business bills clients for a Staff's time. STAFF_SKILL (**STAFFNO**, **SKILL_CODE**) PROJECT (**PROJECTCODE**, PNAME, START_DATE, END_DATE, BUDGET, PROJECT_MANAGER_STAFFNO)

	WORKS (<u>STAFFNO</u>, <u>PROJECTCODE</u>, <u>DATE WORKED ON</u>, IN_TIME, OUT_TIME) The Primary Key of each relation is underlined. Identify the Foreign Keys.
(a)	Develop DDL to implement the above Schema specifying appropriate data types for each attribute enforcing Primary Key, Check Constraints And Foreign Key constraints.

(b)	Populate the database with a rich data set.
	
	   • Five records in DEPARTMENT relation.
	   • Twenty records in STAFF relation.
	   • Ten records in SKILL relation.
	   • Five records in PROJECT relation.
	   • Each Staff should have atleast Two Skills.
	   • Each Staff should work in a minimum of Two Projects.