

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 – V (28.01.2026)

1.	<p>Consider the following relational schema for a Company Database Application:</p> <p>EMPLOYEE (<u>ENO</u>, NAME, GENDER, DOB, DOJ, DESIGNATION, BASIC, DEPTCODE, PANNO, SENO)</p> <p>Implement a Check Constraint for GENDER</p> <p>DEPARTMENT (<u>DEPTCODE</u>, NAME, MENO, NOE)</p> <p>MENO - Manager Employee Number</p> <p>NOE - Number of Employees</p> <p>The default value of NOE is 0</p> <p>PROJECT (<u>PROJCODE</u>, PNAME, DEPT_NO)</p> <p>WORKSFOR (<u>ENO</u>, <u>PROJCODE</u>, <u>DATE WORKED</u>, INTIME, OUTTIME, HOURS)</p> <p>HOURS is a derived attribute.</p>
	<p>Each department has a manager managing it. There are also supervisors in each department who supervise a set of employees. A department can control any number of projects. But only one department can control a project. An employee can work on any number of distinct projects on a given day. The primary key of each relation is underlined.</p>
i.	Develop DDL to implement the above Schema enforcing primary key, check constraints and foreign key constraints.
ii.	Populate the database with a rich data set.
iii.	Develop a SQL query to list the details of employees who earn less than the average basic pay of all employees.
iv.	Develop a SQL query to list the details of departments which has more than six employees working in it.

v.	Develop a view that will keep track of the department number, department name, number of employees in the department, and total basic pay expenditure for each department.
vi.	Develop a database trigger which will increment the NOE attribute in DEPARTMENT relation by 1 when a new record is inserted in the employee relation. (This situation occurs when a new employee is appointed)
vii.	Develop a database trigger which will decrement the NOE attribute in DEPARTMENT relation when a tuple in the employee relation is deleted (This situation occurs when an employee working in a department quits his / her job).
viii.	Develop a database trigger that will fire when an update is performed on the DEPT_NO attribute of the EMPLOYEE relation. The NOE attribute value of the department in which the employee is currently working must be decremented by 1 and the NOE attribute value of the department to which an employee is transferred to must be incremented by 1. (This situation occurs when an employee working in one department is transferred to another department)