

## AUM SRI SAI RAM

### Examination Management System

#### PROBLEM STATEMENT:

0. Examination management system has tasks of maintaining records and modules of students, faculties, courses, examinations, institutes, results etc.
1. The examinations are divided according to departments. Each department has a unique name (dept name), according to the institute.
2. Each department has a list of courses it offers. Each course has associated with a course id, title, dept name, credits managed by **department HOD**
3. Each course has a set of papers with each paper having a unique name and id managed by **teachers**.
4. Exams have a set of rules and regulations. Which has categorised into internal and external.
5. Internal exams have some type of structure and pattern and marks.
6. External exams have some type of structure, pattern and marks.
7. Each student who writes the exam is identified with a unique institute id, name, department, and total credit hours the student earned thus far maintained by **campus and institute**.
8. Examinations are kept at specific time, schedule, room, according to department, course id, date, semester id, day managed by **controller of examinations**.
9. Institute maintains records of student's academic marks based on year, department, course, year, semester, id, name maintained by **institute office**.
10. Allocation of teachers to exams according to their ids, name, department, time, day, date managed by **examination officer**.
11. Examination management system follows computing overall grade by taking 30% of internals and 70% of externals and overall grade given by credits and some process.
12. Student claims has the option of retotalling to students by taking their ids, paper id, course name, year, semester.
13. Absentee details have records of supplementary exams attended by students with student id, course id, paper id, year, institute id, semester no, status of their attendance managed by **examination officer**.

Attributes for departments:

Dept name, id,

Attributes for courses:

Course name, id

Attributes for papers:

Paper name, id, semester, syllabus

Attributes for students:

Name, id, year, semester, course, department, institute id, class

Attributes for Faculty:

Faculty name, id, department, course, paper

Attributes for institute:

Institute id, name, address, courses, departments

**ENTITIES:**

**Person:** student, teacher

**Place:** campus, class, institute

**Object:** student academic records

**Event:** examination, result, retotalling

**Concept:** grading process, course, department, papers, absentee record

Entity type	attributes	TYPE
<b>student</b>	student-Name	Simple (strong)
	student-id	Single
	student-year	Simple
	semester	Simple
<b>teacher</b>	teacher-Name	Simple
	teacher-Id	single
<b>department</b>	department-Name	Simple
	department-id	single
<b>course</b>	course-Name	Simple
	course-Id	Single
<b>institute</b>	institute-Id	single
	institute-Name	Simple
	institute-Address	Simple
<b>paper</b>	paper-Name	Simple
	paper-Id	single
	paper-syllabus	Simple
<b>campus</b>	campus-Id	single
	campus-Name	Simple
	campus-Address	Complex
	campus-Location	simple
examination	exam-id	
	exam-date	

	exam-name	
marks	mark-id	
	student-id	
	paper-id	
	examination-id	
	student-marks	
class	class-id	
	class-name	
	teacher-id	
	paper-id	
	student-id	

#### RELATIONSHIP FOR MY ENTITIES:

**Person:** student, teacher

**Place:** campus, class

**Object:** student academic records,institute

**Event:** examination, result, retotalling,marks

**Concept:** grading process, course, department, papers, absentee record

student_id	teacher_id	student_name	student_year	student_semester
214201	1	jagadeesh	2023	5
214204	1	ramaraju	2023	5
214207	1	nanda	2023	5
214209	1	narendra	2023	5
214210	2	guru	2023	5
214211	2	muthangi	2023	5
214212	2	dinesh	2023	5
214213	3	raj gupta	2023	5
214214	4	shivansh	2023	5
214215	5	sparsh	2023	5
214216	3	tushar	2023	5
214217	5	moksha	2023	5

**this relation is already in 1-NF because no multivalued attribute(atomic)**

the key for this table is (student-id,student-name)

the fds are

F=

{ ac to bde}

b,d,e have redundant values so they won't form the key

prime attributes are a and c

non-prime are b,d,e

checking for partial dependency:

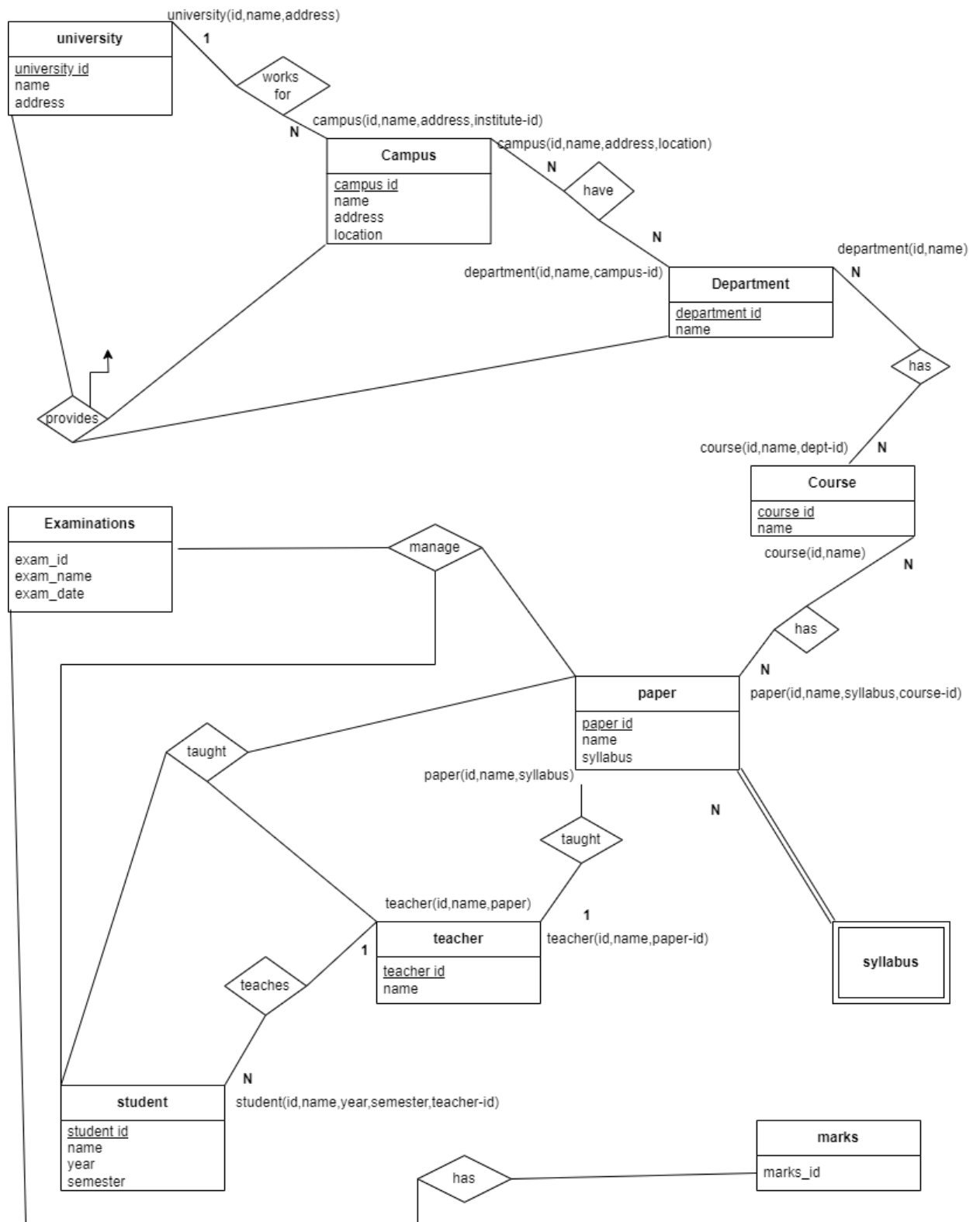
no redundancy

**this table is in 2-NF because:**

every non prime attribute of the relation is fully functionally dependent on each relation key.

**this table is in 3-NF because:**

No Transitive Dependency



<https://github.com/narendra7959/sql-lab.git>

question	query
retrive student name whose studentid is 214214 and student sem is 5	select student_name from student where student_id=214214 and student_semester=5;
retrive campus name,campus address where campus-id is 1 and university address is puttaparthi	select campus_name,campus_address from campus,university where campus_id=1 and university_address="puttaparthi";
retrive department name,course-id paper-name of dmacs department and dbms paper	select department_name,course_id,paper_name from department,course,paper where department_name="dmacs" and course_id=1 and paper_name="dbms";
retrive student name whose is in year 2023	select student_name from student where student_year in (select student_year from student where student_year="2023");
retrive student marks	select student_marks from marks;
retrive all student names and teacher names	select teacher_name,student_name from student,teacher;
give me all details of students who have been taught by the teacher with ID 1?	select * from student where teacher_id=1;
What are the details of the department named "dmacs" located in campusid 2?	select * from department,campus where department_name="dmacs" and campus_id=2;
give me all details of students	select student_id from student;
What are the names of all the unique examinations that have been conducted?	select distinct examination_name from examination;
What are the paper IDs, examination IDs, and student marks for all students who took the "end sem" examination?	select paper_id,examination_id,student_marks from marks where examination_id in (select examination_id from examination where examination_name="end sem");

What are the distinct paper IDs for all teachers who belong to departments	<code>select distinct paper_id from teacher where department_id in (1,2,3);</code>
What are the names and addresses of all universities in the university table?	<code>select university_name,university_address from university where university_id is not null;</code>
give all details of paper?	<code>select paper_name,paper_id,course_name from paper,course where course_name="bsc computer honours";</code>
give me count of department?	<code>SELECT COUNT(*) FROM department;</code>
give me count of student and teacher?	<code>select count(*) from student,teacher where student_semester=5;</code>
give details of students studying in 3rd bsc?	<code>SELECT student_id,class_id FROM class WHERE class_name LIKE "%3rd bsc";</code>
give me student ending student-id with 1?	<code>SELECT student_name FROM student WHERE student_id LIKE "____1";</code>
give teachername by order?	<code>select teacher_name from teacher order by teacher_name;</code>
give teachername from student table?	<code>select teacher_name from teacher where teacher_id in (select teacher_id from student);</code>
give me student with id 214209 and paper-id is 501?	<code>(select student_name from student where student_id=214209) union (select paper_name from paper where paper_id=501);</code>
give me max,avg,min marks of 501 exam?	<code>select max(student_marks), min(student_marks), avg(student_marks) from marks , paper,examination where paper_id=501 ;</code>
give max,min,avg marks of students?	<code>select MAX(student_marks), MIN(student_marks), AVG(student_marks) from marks;</code>
give campus which is in muddenehalli?	<code>select campus_name from campus where campus_address = (select campus_address from campus where campus_address="muddenehalli");</code>
give details of student who got 50 marks?	<code>select student_id,paper_id examination_id,marks_id from marks where student_marks=50;</code>
give diferent student names within 1,2,3?	<code>SELECT DISTINCT student_name FROM student WHERE student_id IN (1, 2, 3);</code>
give details of paper,course of bsc computer science?	<code>select paper_name,paper_id,course_name from paper,course where course_name="bsc computer honours";</code>

give details of sunil sir handling with?

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select paper_id,department_id,course_id from  
paper,department,course,teacher where  
teacher_name="sunil sir";
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