

**INDIAN INSTITUTE OF ENGINEERING SCIENCE AND TECHNOLOGY, SHIBPUR**  
**B.TECH (5<sup>th</sup> sem) Mid-Semester EXAMINATION, Oct 2021**

**Database Management Systems (CS3102)**

**F. M. = 30**

**Time – 45 Minutes**

**Answer all questions**

1. Consider the following relational schema:

Students(rollno: integer, sname: string)

Courses(courseno: integer, cname: string)

Registration(rollno: integer, courseno: integer, percent: real)

Write the query ‘Find the distinct names of all students who score more than 90% in the course numbered 107’ in the following form:

- a) Relational Algebra
- b) Tuple relational calculus
- c) SQL

[3x5=15]

2. Draw the ER diagram and design the tables based on this for the following:

Let us consider that a Football Club maintains a database for which the requirements are as follows:

The Club has many teams where each team has a name, a town, a coach, a captain, and a set of players. A team captain is also a player. Each player belongs to only one team and has a name, a position, a skill level, and a set of injury records including date of injury. A match is played between two teams such as host-team and guest-team and has a date and a score.

Finally, write down the assumptions (if any) you make.

[5+5+5]