1) $\Pi_{\text{course no,course name}}(\sigma_{\text{course.cno=teaches.cno}}(\text{Courses X}\sigma_{\text{teaches.tid=teacher.tid}}(\text{Teaches X}(\sigma_{\text{Name="PPC"}}\ (\text{Teacher})))))$

Where tid=teacher id, cno=course no.

2) $\Pi_{\text{Student Id,Name}}(\sigma_{\text{student.sid=enrolled.sid}}(\text{Student X}(\sigma_{\text{enrolled.cno=teaches.cno}}(\text{enrolled X }(\sigma_{\text{teaches.tid=teacher.tid}}\ (\text{Teaches X }(\sigma_{\text{Name="PPC"}}\ (\text{Teacher}))))))))$

3) $\Pi_{\text{Day,Start time,End time}}\ (\ \sigma_{\text{room no. = "NC142"}}\ (\text{Timings}))$

Prof. Pabitra Mitra told us that relational algebra for the last two queries is not needed, just the sql command will be sufficient.

4) SELECT student.name,enrolled.cno,enrolled.marks
FROM (SELECT enrolled.cno,MAX(enrolled.marks) AS mark FROM enrolled,student,teacher,teaches WHERE teacher.name="PPC" AND teacher.tid=teaches.tid AND enrolled.sid=student.sid AND enrolled.cno=teaches.cno GROUP BY enrolled.cno) AS x,enrolled,student WHERE enrolled.marks=x.mark AND enrolled.cno=x.cno AND enrolled.sid=student.sid;

5) Written it in sql_commands.txt