COL703: Logic for Computer Science

Mon 20 Sep 2021 **Minor Exam** 09:30-11:00 Max marks 40

Instructions:
1. Download each question at the appropriate time.
2. Write your name and entry number in the designated space on top .
3. Scan the page with your completed answer.
4. Upload it on Gradescope 2101-COL703 page within the given time. *Make sure the first page with your name, entry no and signature is also the first page of your uploaded file*
5. Email submissions after the closing of the portal will not be evaluated (You get a 0).
6. Uploads without the first page details (including signature) may be awarded 0 marks.
7. *Do not forget to sign the honour statement below*. You need to sign it only once for the entire exam.

I abide by the Honour code that I have signed on my admission to IIT Delhi. I have neither given any help to anybody nor received any help from anybody or any site on the internet in solving the question(s) in this paper.

Signature: **Date:**

1. **COL703: Minor-Q1 09:30-09:45, late submission accepted till 09:50, 7 marks**
   Let p, q, r be atomic propositions. Prove the following using the tableau method.

$$(p \to (q \to r)) \to ((p \to q) \to r)$$