

CS5580 Quiz-1

StartWriting at S=5:30pm, StopWriting at D=6pm, Submit by D+15=6:15pm

NOTE: Please write your ROLL NO. clearly on ALL answer sheets.

1. Prove or disprove:

$$\min_{x \in \mathcal{X}} \begin{array}{l} f(x) \\ \text{s.t. } g_i(x) \leq 0, i = 1, \dots, m \end{array} = \log_e \left(\min_{x \in \mathcal{X}} \begin{array}{l} e^{f(x)} \\ \text{s.t. } g_i(x) \leq 0, i = 1, \dots, m \end{array} \right)$$

You may assume that the feasibility set of the MPs in LHS,RHS is non-empty, but do NOT assume that their optimal solution sets are non-empty. In case you use some theorem/result from this course, then prove that theorem/result also.