Quiz 7 (*Nov. 16, Marks: 4, Duration: 25 mins*) **COL703, Jul-Nov 2023**

Name: **Entry No.:**

1. **[2 marks]** We claim that ROBDDs can be used to count all solutions to a propositional satisfiability problem. Write down the pseudocode of an algorithm that computes the number of satisfying truth assignments of a propositional formula, given its ROBDD.

2. **[2 marks]** Let $F = \forall x_1 \ldots \forall x_n \; G$ be a closed formula in Skolem form, with G quantifier-free. Let R be a resolvent of two clauses in G. Then, $F \equiv \forall^*(G \cup \{R\})$. Note that for a formula H with free variables $y_1, \ldots, y_n$, its universal closure $\forall^* H$ is the sentence $\forall y_1 \ldots \forall y_n H$.