Name:
Student ID:
Section:

CSE - 420: Compiler Design
Fall 2024
Quiz-2

Total marks: 20 **Time: 30 mins**

1. **Write if the following SDD is L-attributed or not. Provide explanation. (3 + 3)**
   a) $A \rightarrow BC$ $A.a = C.c, B.b = A.a + B.d$
   b) $E \rightarrow XY$ $Y.y = X.x, E.e = Y.y$

2. $S \rightarrow D\_D$
   $D \rightarrow LD'$
   $D' \rightarrow LD'$
   $D' \rightarrow \varepsilon$
   $L \rightarrow letter$

   This is a grammar for identifiers like abc_def, a_b etc.
   Attributes are: $S.val,\ D.val,\ L.val,\ digit.lexval, D'.inh$ ($inherited$), $D'.syn$ ($synthesized$)

   a) Draw an annotated parse tree for **cs_e** (5)
   b) Write down the SDD Rules for this grammar. [Hint: You have to use the concatenate operator. Use '||' symbol for concatenation]. (5)
   c) From the parse tree find the evaluation order using dependency graph. (4)