

Answer

The following are tautologies: (a), (c), (d), (e), (g), (h), (j).

Here is a counterexample to (b): Let y be a variable, let σ be a behavior s_1, s_2, \dots in which y equals either 1 or 2 in each state s_i , depending on whether i is odd or even. Then:

$$\llbracket \Diamond \Box ((y = 1) \vee (y = 2)) \rrbracket(\sigma) = \text{TRUE}$$

$$\llbracket (\Diamond \Box (y = 1)) \vee (\Diamond \Box (y = 2)) \rrbracket(\sigma) = \text{FALSE}$$

[CLOSE](#)