Quiz 6

1. Let G be any CFG that does not generate λ. Then G has an equivalent grammar in Chomsky normal from.

   (a) True only if G is not ambiguous.

   (b) True only if G is not inherently ambiguous.

   (c) True in any case.

   (d) All of the above.

2. Which of the following is NOT a unit-production?

   (a) $A \to a$

   (b) $A \to A$

   (c) $A \to B$

   (d) All of the above are unit-productions.

3. Of the following order of removing undesired productions in a CFG, which one is NOT recommended?

   (a) Removing λ-productions before unit-productions.

   (b) Removing unit-productions before useless productions.

   (c) Removing unit-productions before λ-productions.

   (d) Removing λ-productions before useless productions.

4. Which of the following statements is true?

   (a) No regular grammar is ambiguous.

   (b) No regular grammar is inherently ambiguous.

   (c) No regular language has an ambiguous grammar.

   (d) All of the above.

5. Which list includes every *nullable* variable in the grammar below?

$$S \to AaB \mid aaB$$
$$A \to BC \mid aB$$
$$B \to aB \mid \lambda$$
$$C \to aA \mid S \mid B$$

(a) B

(b) A and B

(c) B and C

(d) A, B, and C

(e) A, B, C, and S