

Name: \_\_\_\_\_  
Student ID: \_\_\_\_\_

## Quiz: Tautologies, Contradictions and Contingent Statements

No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

**Question 1.** (3 marks) WITHOUT USING A TRUTH TABLE: Show that the following statement is not a tautology.

$$(\neg A \vee B) \rightarrow \neg(A \wedge B)$$

**Question 2.** (3 marks) WITHOUT USING A TRUTH TABLE: Show that the following statement is not a contradiction.

$$(\neg A \wedge B) \rightarrow \neg(A \vee B)$$