

Formal Logic

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Translation Exercises Chapter 3

Are the following statements tautologous, self-contradictory or contingent?

1. Inflation will be stopped if either interest rates fall or do not fall. (I, F)
2. If interest rates neither rise nor fall, then there will be less unemployment if interest rates fall. (R, F, U)

Are the following sets of statements consistent?

3. God exists if and only if either life is meaningful or the soul is not immortal. God exists and the soul is immortal. If God exists, then life is meaningful. (G, L, I)
4. There will be a war with Iran only if Iran continues to enrich uranium. There will be a war with Iran only if Iran does not continue to enrich uranium. Iran will continue to enrich uranium. There will be no war with Iran. (W, C)
5. Jon is too old to work. Jon survives on the wages of his twin brother, Bob. If Jon is too old to work, then his twin brother Bob is too old to work. Bob is not too old to work. (J, S, B)

Are the following pairs of statements equivalent?

6. If Obama was elected, then taxes were raised only if education was supported. If education was not supported, then if taxes were raised, Obama was not elected. (O, T, E)
7. If one is voluntarily intoxicated, then one is morally responsible for one's actions. If one is involuntarily intoxicated, then one is not morally responsible for one's actions. (V, M)

Are the following arguments valid?

8. If the hypothesis is true, then the experiment implied by the hypothesis is positive. The experiment implied by the hypothesis is negative. Therefore, the hypothesis is false. (H, E)
9. If what you say does not enlarge my understanding, then what you say is without value to me, and if what you say is unintelligible to me, then it is without value to me. Whatever you say either does not enlarge my understanding or else is unintelligible to me. Therefore, what you say is without any value to me. (E, V, U)
10. If either the husband or the wife paid the premium that was due, then the policy was in force and the cost of the accident was covered. If the cost of the accident was covered, they were not forced into bankruptcy. But they were forced into bankruptcy. Therefore, the husband did not pay the premium that was due. (H,W, P, C, B)