Week 2: Practice Questions

I. **Multiple choice**

1. X is a sufficient condition for Y so long as _____ .

2. Y is a necessary condition for X so long as _____ .

3. In what sense are necessary and sufficient conditions converses of each other?

4. Saying that X is both a necessary and sufficient condition for Y implies…
    a. Something must satisfy condition X in order to count as Y
    b. X is a sufficient condition for Y
    c. X absolutely guarantees Y, and it is absolutely impossible to count as Y without also counting as X
    d. All of the above

5. Being unmarried is what sort of condition for being a bachelor?
    a. A necessary condition
    b. A sufficient condition
    c. Both a necessary and sufficient condition

6. A certain college requires all students to take at least one philosophy course before they are eligible to graduate. For this college, taking a philosophy course is…
    a. A necessary condition for graduating
    b. A sufficient condition for graduating
    c. Something that must be done in order to be eligible to graduate
    d. Both (a) and (c)

7. "An individual does not have moral worth unless that individual has the capacity for reason. That is why animals lack moral worth—they lack the capacity for reason." In the preceding quotation, it is explicitly maintained that a capacity for reason is…
    a. Both a necessary and sufficient condition for having moral worth
    b. An absolute guarantee of having moral worth
    c. A necessary condition for having moral worth
    d. A sufficient condition for having moral worth
    e. (b) and (c)

8. The conditions of (i) having some money and (ii) having $5 stand in what relationship to each other?
    a. Meeting condition (i) is necessary for meeting condition (ii)
    b. Meeting condition (ii) is necessary for meeting condition (i)
    c. Meeting condition (ii) is sufficient for meeting condition (i)
    d. Both (a) and (c)

9. If true, the claim "an action is right if and only if it produces more good than bad" entails…
    a. Producing more good than bad is both a necessary and sufficient condition for an action to be right
    b. Producing more good than bad is a necessary condition for an action to be right
    c. Producing more good than bad is a sufficient condition for an action to be right
    d. All of the above

10. "One initially plausible objection here claims that in order for an entity's death to be bad for it, that entity must value its future. With this idea in hand, it could be suggested that many animals cannot value their futures (or at least: not in as rich of a way as humans), and hence that their deaths are not bad." According to the objection mentioned in the previous quotation, an entity's valuing its own future is a _____ for that entity's death to be bad for it.
    a. Necessary condition
    b. Sufficient condition
    c. Both a necessary and sufficient condition

II. **True/false**

11. If a person makes a series of claims without providing any reasons to believe any of those claims, that series of claims may still count as an argument.
    a. True
    b. False

12. If having the capacity for reason is a necessary condition for having moral worth, then having moral worth is a sufficient condition for having the capacity for reason.
    a. True
    b. False

13. It is both necessary and sufficient for getting an A in this course that one gets A's on every assignment, attends every lecture, and pays attention in class.
    a. True
    b. False

14. In basketball, getting the ball through the hoop (without breaking the rules, etc.) is a sufficient condition for scoring a point.
    a. True
    b. False

15. An argument is the attempt to persuade someone to believe, desire, or do something solely through the power of words.
    a. True
    b. False

III. **Critical thinking**

16. In the following quotation from "Moral Realism," Michael Smith suggests that there are relationships between the empirical sciences, naturalism, what we have reason to believe, and naturalistic moral realism. Can any of these relationships be modeled in terms of necessary and/or sufficient conditions? If so, please explain how.

    "[G]iven the success of the empirical sciences in providing explanations of various aspects of the world, it is extremely plausible to hold that the world is *entirely* amenable to study through the empirical sciences. Naturalism accordingly entails that the only features we have any reason to believe objects have are one and all naturalistic features – features which are themselves posits, or composites of posits, of empirical science. The upshot is therefore that, if any form of moral realism is true at all, then it must be a form of *naturalistic moral realism*."

17. In the following quotation from "The argument from queerness," J. L. Mackie attempts to persuade his readers of a conclusion. What is that conclusion? How would you put this passage into "standard form"?

> "If there were objective values, then they would be entities or qualities or relations of a very strange sort, utterly different from anything else in the universe. Correspondingly, if we were aware of them, it would have to be by some special faculty of moral perception or intuition, utterly different from our ordinary ways of knowing everything else. . . . The assertion that there are objective values or intrinsically prescriptive entities or features of some kind, which ordinary moral judgements presuppose, is, I hold, not meaningless but false."

18. Suppose someone claims that an action is right if and only if it produces more good than bad. What would it take to provide a counterexample to this claim? Describe a situation that you take to provide a counterexample to the claim. If you instead think the claim is true, then describe a situation someone might reasonably take to provide a counterexample to that claim and then explain why it isn't really a counterexample.

Answer Key

Question 1: Two acceptable answers: (a) meeting condition X absolutely guarantees that something counts as a Y; (b) meeting condition X is enough to meet condition Y. (More precisely, rather than using the language of "counting as," we might use the verb "to be," i.e., "*being* X is enough *to be* Y.")

Question 2: Two acceptable answers: (a) Y is a condition something must satisfy in order to count as an X; (b) it is absolutely impossible for something to count as an X without also counting as a Y. (More precisely, rather than using the language of "counting as," we might use the verb "to be," i.e., "it is absolutely impossible for something *to be* X without also *being* Y.")

Question 3: Necessary and sufficient conditions are converses of each other in the following sense: if Y is a necessary condition for X, then X is a sufficient condition for Y; and if X is a sufficient condition for Y, then Y is a necessary condition for X. For example, having four sides is a necessary condition for being a square. But if a plane figure is a square, then it is absolutely guaranteed to have four sides. Similarly, if being an equilateral rectangle is a sufficient condition for being a square, then being a square is a necessary condition for being an equilateral rectangle.

As a result, every material conditional (a statement of the form "if P, then Q") indicates a necessary and sufficient condition, depending on whether we focus on the antecedent (what comes before the "then") or the consequent (what comes after the "then"). If a material conditional is true, then the consequent is a necessary condition for the antecedent, while the antecedent is a sufficient condition for the consequent. Hence, if someone says "If something is a square, then it has four sides," and that claim is true, then having four sides is a necessary condition for being a square, and being a square is a sufficient condition for having four sides. A biconditional (a statement of the form "P if and only if Q") indicates that Q is *both* a necessary *and* sufficient condition for P, and vice versa. While the claim "if P, then Q" is logically equivalent to the claim "P only if Q," the "only if" is sometimes used to draw attention to the fact that if the claim is true, then Q is a necessary condition for P. For example, someone might write that "An individual is a bachelor *only if* that individual is unmarried" in order to clearly communicate the belief that being unmarried is a necessary condition for being a bachelor (*even though* if the claim is true*,* then being a bachelor is *also* a sufficient condition for being unmarried—a claim that may be less interesting to emphasize in many contexts).

Question 4: The answer is (d). Some of you might have been tempted to pick option (c). This would be the correct answer if, for example, (b) said that X is *only* a sufficient condition for Y. In other words, while they make different claims, (a) and (b) are compatible and can both be true. Moreover, since the claim that X is *both* a necessary *and* sufficient condition for Y logically implies that X is a necessary condition for Y and that X is a sufficient condition for Y—which is what option (c) says in other terms—it entails both (a) and (b).

Option 5: The answer is (a). Though it may be difficult to list *all* of the necessary conditions for being a bachelor, it is uncontroversial that *one* of them is being unmarried.

Option 6: The answer is (d), because (a) and (c) express the same idea in different terms.

Option 7: The answer is (c). While the author might also believe that having the capacity for reason is a sufficient condition for having moral worth, that is not explicitly communicated in the quotation. <u>Note:</u> due to the peculiarities of the English word "unless," this question is more challenging than I intended it to be. So, don't feel bad if you got the wrong answer.

Question 8: This question is somewhat tricky, and the answer follows from the correct answer to question 3 above. It is absolutely impossible for someone to have $5 without having some money, so the latter is a necessary condition for the former. However, having $5 is also an absolute guarantee that someone has *some* money, so the former is a sufficient condition for the latter. Hence, both (a) and (c) are true, and the correct answer is (d).

Question 9: The answer is (d). A biconditional of the form "P if and only if Q" communicates that Q is both a necessary and sufficient condition for P (and vice versa). Some of you may have been tempted to pick answer (a), but see the explanation for question 4 above.

Question 10: The answer is (a). While the objector might also believe that an entity's valuing its own future is a sufficient condition for that entity's death to be bad for it, that is not explicitly communicated in the quotation.

Question 11: False. In order to argue for a claim, one must cite at least one reason to accept that claim.

Question 12: True. This follows from the answer to question 3. See also the explanation for question 8.

Question 13: False. While those conditions are jointly sufficient for getting an A in this course, none of them is necessary—one might earn an A in this course despite receiving a B on a single assignment, for example.

Question 14: True. Given the rules of basketball, getting the ball through the hoop (without breaking the rules, etc.) is an *absolute guarantee* of scoring a point.

Question 15: False. That is the definition of *rhetoric*.

Question 16: Here are some possible answers to this question (in decreasing obviousness and excluding the converses of these answers): (a) the truth of naturalistic moral realism is a *necessary condition* for the truth of moral realism; (b) the truth of naturalism is a *sufficient condition* for the truth of the claim that the only features we have any reason to believe objects have are one and all naturalistic features; (c) the success of the empirical sciences in providing explanations of various aspects of the world is a *sufficient condition* for the *extreme plausibility* of holding that the world is entirely amenable to study through the empirical sciences.

Question 17: Mackie *explicitly* indicates that he is attempting to support the claim that (i) it is *false* that there are objective values or intrinsically prescriptive entities or features of some kind. In this passage, he also *suggests* that (ii) all ordinary moral judgments are false—a conclusion that he makes explicit in other parts of the book. (Most philosophers agree that *if* ordinary moral judgments *presuppose* that there are objective values, and that presupposition is incorrect, then those judgments are at least *untrue*.) With this additional context, we might say that (i) is an *intermediate* conclusion, while (ii) is the *main* conclusion. But given that this isn't made explicit in the quotation, it is also acceptable to say that (i) is the conclusion of the passage. Here is one way of putting the argument for (i) into standard form (as an instance of *modus tollens*):

(1) If there are objective values, then they are entities or qualities or relations of a very strange sort, utterly different from anything else in the universe, *and* (assuming we're aware of them at all) we must have some special faculty of moral perception or intuition, utterly different from our ordinary ways of knowing everything else.
(2) It is not the case that there are such entities, qualities, or relations and some special faculty of moral perception or intuition.
(3) So: there are no objective values.

However, it may be clearer to interpret Mackie as providing two different arguments for closely related conclusions, which we can also represent as instances of *modus tollens*:

(1) If there are objective values, then they are entities or qualities or relations of a very strange sort, utterly different from anything else in the universe.
(2) It is not the case that there are such entities, qualities, or relations.
(3) So: there are no objective values.

(1) If there are objective values of which we are aware, then we must be aware of them by some special faculty of moral perception or intuition, utterly different from our ordinary ways of knowing everything else.
(2) It is not the case that we have some special faculty of moral perception or intuition.
(3) So: there are no objective values of which we are aware.

Question 18: There are two ways to provide a potential counterexample to the claim: (i) point to a (logically possible) action that is intuitively right, but that doesn't produce more good than bad; (ii) point to a (logically possible) action that produces more good than bad, but that is not intuitively right. See p. 12 of "Introducing Arguments" and pp. 76–77 of "Valid and Sound Arguments."