

NAME _____

STUDENT NUMBER _____

PHI 1101: REASONING AND CRITICAL THINKING

Professor: Dr. Mark Raymond Brown

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Second Test: 60 marks worth 15% of final mark

Closed Book

I. For each of the following on the line provided write what is implicit -- premise or conclusion -- and then write what the implicit premise or conclusion is. Each is worth two marks.

1. Computer software is written by humans, and humans make mistakes.

Implicit **__conclusion__**

Computer software makes mistakes.

2. Tom is a very successful salesperson, so he must be an outgoing person.

Implicit **___premise_____**

Very successful salespeople are outgoing [persons].

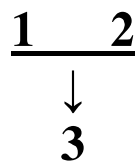
II. Present the following arguments in standard form and provide a diagram for each. You may want to keep in mind that you may have to reformulate some claims, that explanations may occur, and that noise or redundancies may arise in some arguments. The value of each question is noted in parentheses.

1. You are obviously suffering from the Wyoming Gollywobbles virus; you have green and orange spots on your elbows and knees, and only the Wyoming Gollywobbles virus can cause green and orange spots on the knees and elbows. (3)

Standard Form:

- 1. You have green and orange spots on your elbows and knees**
- 2. Only the Wyoming Gollywobbles virus can cause green and orange spots on the knees and elbows.**
-
- 3. You are obviously suffering from the Wyoming Gollywobbles virus.**

Diagram:



2. The fate of the hikers will forever be a mystery. The *Weekly World News* said they were devoured by army ants, but not much in the *WWN* is true, so probably they weren't. If they weren't, we just don't know what happened to them. So we will always be wondering. (4)

1. The *Weekly World News* said the hikers [they] were devoured by army ants.

2. Not much in the *WWN* is true.

3. The hikers probably weren't devoured by army ants. 1, 2

4. If the hikers [they] weren't devoured by army ants, we just don't know what happened to them.

5. The fate of the hikers will forever be a mystery. 3, 4

1-----2

↓

3-----4

↓

5

3. Most university students are liberal in their outlook on life, and Sean is a university student. Thus, Sean is probably liberal in his outlook on life. Accordingly, Sean probably supports the idea of universal Medicare because most individuals who are liberal in their outlook on life support universal Medicare. (4)

1. Most university students are liberal in their outlook on life.

2. Sean is a university student.

3. Sean is probably liberal in his outlook on life. 1, 2

4. Most individuals who are liberal in their outlook on life support universal Medicare.

5. Sean probably supports the idea of universal Medicare. 3, 4

1-----2

↓

3-----4

↓

5

4. Cole is up to no good. He's been acting suspiciously for days, and he told Rachel he was going to steal something valuable. (3)

1. Cole [he] has been acting suspiciously for days.

2. Cole [he] told Rachel he was going to steal something valuable.

3. Cole is up to no good.

1 2
\ /
3

III. For each of the following arguments: (1) Identify which of the three nondeductive arguments that we considered in chapter three is used. Next, (2) state whether or not the argument is successful or unsuccessful. (3) If the argument is successful, provide a brief explanation for why it is so. Or if the argument is unsuccessful, provide a brief explanation for why it is not successful. Each is worth 2 marks.

1. A random survey of 300 out of 350 nurses from various departments at the General Hospital revealed that 98% are overly tired, stressed out, and overworked. Jane is a nurse at the General Hospital. Therefore, in all likelihood, Jane is overly tired, stressed out, and overworked.

Statistical Syllogism

Successful: The evidence is random and representative and it certainly supports the conclusion that, in all likelihood, Jane is overly tired, stressed out, and overworked.

2. An animal has been nipping at my sleeping bag. I've heard the faint sound of animals squeaking. A very small amount of my trail mix has been eaten. It appears that a small animal has been gnawing upon my block of cheddar cheese. I was awakened by something lightly scurrying across my face last night. There are no signs of bears or other large mammals around. So, probably there are mice or other small rodents in our campground.

Plausibility Argument

Successful: Numerous instances or evidence (premises) that confirm the conclusion.

IV. Please circle the letter that corresponds to the best answer. Each is worth 1 mark.

$$\begin{array}{l} 1. \quad (A \bullet B) \rightarrow C \\ \quad \quad A \bullet B \\ \quad \quad \text{-----} \\ \quad \quad C \end{array}$$

Above is an example of which valid argument form?

- a) *Modus Tollens*
- b) *Modus Ponens***
- c) Disjunctive Syllogism
- d) Hypothetical Syllogism

2. D
E

D • E

Above is an example of which valid argument form?

- a) Simplification
- b) Addition
- c) Conjunction**
- d) Affirming the Consequent

$$\begin{array}{l} 3. \quad A \vee B \\ \quad \sim B \\ \quad \text{-----} \\ \quad A \end{array}$$

Above is an example of which valid argument form?

a) *Modus Tollens*

b) *Modus Ponens*

c) Disjunctive Syllogism

d) Hypothetical Syllogism

4. E

E v F

Above is an example of which valid argument form?

a) Disjunctive Syllogism

b) Addition

c) Conjunction

d) Simplification

$$\begin{array}{l} 5. \quad (A \bullet B) \rightarrow C \\ \quad \quad \sim C \\ \quad \quad \text{-----} \\ \quad \quad \sim(A \bullet B) \end{array}$$

Above is an example of which valid argument form?

- a) *Modus Tollens*
- b) *Modus Ponens*
- c) Disjunctive Syllogism
- d) Hypothetical Syllogism

$$\begin{array}{l} 6. \quad P \rightarrow Q \\ \quad \quad Q \rightarrow R \\ \quad \quad \text{-----} \\ \quad \quad P \rightarrow R \end{array}$$

Above is an example of which valid argument form?

- a) *Modus Tollens*
- b) *Modus Ponens*
- c) Disjunctive Syllogism
- d) Hypothetical Syllogism**

$$\begin{array}{l} 7. \quad P \bullet Q \\ \quad \text{-----} \\ \quad P \end{array}$$

Above is an example of which valid argument form?

- a) **Simplification**
- b) Addition
- c) Conjunction
- d) Affirming the Consequent

$$\begin{array}{l} 8. \quad P \vee Q \\ \quad P \rightarrow R \\ \quad Q \rightarrow S \\ \quad \text{-----} \\ \quad R \vee S \end{array}$$

The valid argument form above is known as:

- a) Hypothetical Syllogism
- b) Disjunctive Syllogism
- c) Constructive Dilemma**
- d) Affirming the Consequent

$$\begin{array}{l} 9. \quad p \rightarrow q \\ \quad \quad q \\ \quad \quad \text{-----} \\ \quad \quad p \end{array}$$

The invalid argument form above is known as:

- a) Modus Tollens
- b) Denying the Antecedent
- c) Modus Ponens
- d) Affirming the Consequent**

$$\begin{array}{l} 10. \quad p \rightarrow q \\ \quad \sim p \\ \quad \text{-----} \\ \quad \sim q \end{array}$$

The invalid argument form above is known as:

- a) Modus Tollens
- b) Denying the Antecedent**
- c) Modus Ponens
- d) Affirming the Consequent

11. All humans are mammals. This categorical statement is best described as _____:

- a) a particular categorical statement
- b) a disjunctive statement
- c) a universal categorical statement**
- d) a conditional statement

12. Some lawyers are liars. This categorical statement is best described as _____:

a) a particular categorical statement

b) a disjunctive statement

c) a universal categorical statement

d) a conditional statement

13. Venn diagrams are used to determine which type of argument is valid or invalid?

a) disjunctive syllogisms

b) hypothetical syllogisms

c) categorical syllogisms

d) inductive generalizations

14. When a categorical syllogism has a combination of a particular categorical statement and a universal categorical statement for its premises, we always start with drawing _____ on our Venn diagram.

- a) the particular categorical statement
- b) the disjunctive statement
- c) the universal categorical statement**
- d) the conditional statement

15. When we draw a universal categorical statement on a Venn diagram we always _____.

- a) shade**
- b) use an asterisk
- c) add a line
- d) use numerical notation

16. When we draw a particular categorical statement on a Venn diagram we always _____.

a) shade

b) use an asterisk

c) add a line

d) use numerical notation

V. For the arguments below, use the valid argument forms to show how the conclusion follows from the premises by a series of valid inferences. In other words, in the space on the right, construct a proof in which you add the line or lines necessary to demonstrate the proper valid inferences. Be sure to cite the lines from which each inference follows and give its justification. Each is worth four marks.

1. $A \bullet E$
 $E \rightarrow (A \rightarrow B)$

 B

1. $A \bullet E$
2. $E \rightarrow (A \rightarrow B)$
3. E **1 simp**
4. A **1 simp**
5. $A \rightarrow B$ **2, 3 MP**
6. B **4, 5 MP**

2. $P \rightarrow Q$
 $\sim Q \vee R$
 $\sim R$

 $\sim P$

1. $P \rightarrow Q$
2. $\sim Q \vee R$
3. $\sim R$
4. $\sim Q$ **2, 3 DS**
5. $\sim P$ **1, 4 MT**

3. $P \rightarrow (Q \vee R)$
 $\sim Q \bullet P$

 R

1. $P \rightarrow (Q \vee R)$
2. $\sim Q \bullet P$
3. P **2 simp**
4. $\sim Q$ **2 simp**
5. $Q \vee R$ **1, 3 MP**
6. R **4, 5 DS**

VI. Draw a Venn diagram for each of the following categorical syllogisms, and state whether each is valid or invalid. Each question is worth two marks.

1. No landlubbers are sailors. Some sailors are not pirates. So, some pirates are not landlubbers.
2. All politicians are self-promoters, and no self-promoters are persons dedicated to the public good. Accordingly, no persons dedicated to the public good are politicians.
3. Anyone who eats pizza every night is at risk for heart disease. Some people who are at risk for heart disease are cab drivers. So, some cab drivers are people who eat pizza every night.

4. All medical doctors are persons who have attended medical school, but at least one medical doctor is not a golfer. Therefore, at least one person who has attended medical school is not a golfer.

5. Some athletes are not baseball players, and some baseball players are not basketball players. Therefore, some athletes are not basketball players.