Final Exam

**Law of the Excluded Middle:** Also known as law of Bivalence, asserts that every statement must be either true or false. Any middle position must be excluded. For any given statement, the negation must be the opposite. Eg. If the statement is false, then the negation must be true and vice versa.

**Law of Non-Contradiction:** It is impossible for a statement and its negation to both be true at the same time. In other words, one cannot truthfully both assert and deny that something is the case.

**Consistency:** A property of a group, or set, of statements. A set of statements is consistent when all of the statements are true at the same time. They cannot contradict one another. A set of statements is *inconsistent* if it is impossible for all the statements in that set to be true at the same time. NOTE- A set of false statements can be consistent also, as long as it is possible for them to all be true at the same time.

Eg. Consistent: Socrates is mortal. Socrates is a man.
Inconsistent: Socrates is mortal. Socrates is immortal.

Arguments: Additional Information

**Enthymeme:** An argument in which the conclusion or one of the premises has been left unstated.

Example One: Premise Unstated
*(All men are mortal.)*
Socrates is a man.
Therefore, Socrates is mortal.

Example Two: Conclusion Unstated
All men are mortal.
Socrates is a man.
*(Therefore, Socrates is mortal.)*

**Sorites:** Connected series of arguments in which the conclusion of one argument serves as a premise in another argument.

Eg. All men are mortal.
Socrates is a man.
Therefore, Socrates is mortal.
Mortal men are not Olympian Gods.
Therefore, Socrates is not an Olympian God.

**Counterexamples to Deductive Arguments:** To claim that an argument is deductively valid is to say that it could never be the case that all of the premises of that argument are true and its conclusion false.

A valid argument has no counterexamples. A **counterexample** to a deductive argument is an argument of the same logical form as the argument but which has true premises and a false conclusion. A counterexample to a deductive argument

demonstrates that the argument is invalid because it shows that there are conditions under which the premises of that argument could be true with a false conclusion.

Eg. Following argument can be shown to be invalid by finding a counterexample:

| | | |
|---|---|---|
| All humans are mortal. | Counterexample: | All dogs are animals. |
| All women are mortal. | | All cats are animals. |
| Therefore, all women are humans. | | Therefore, all cats are dogs. |

Unit One

**Statement** is a type of sentence that makes a claim - can be true or false. Also called assertions or propositions.
**Sets** are groups of statements that can be inconsistent or consistent.
**Arguments** can be logically strong or logically weak.
**Concept** is a statement.
**Property** is a description of being either true or false.
**Proposition** example: Socrates is a man.
**Command** example: Socrates, be a man.
**Question** example: Is Socrates a man?
**Expression of Volition** example: Oh, that Socrates were a man.

*Features of Logical Strength:* **Logically strong-** the premises (if true) support the truth of the conclusion, or reasonable to believe. The premises can be strong but false.
**Soundness** is when an argument is both logically strong and true.

Logical strength is sometimes a matter of **degree**. Divides two types of arguments;

**Deductive arguments -** the truth of their premises guarantee the truth of the conclusion. These types of arguments involve strict proof.
*Deductive validity* when all the premises are true, therefore the conclusion is true. NEVER true premises and a false conclusion.
**Inductive arguments -** the truth of its premises make the truth of its conclusion probable. *Probability* is a matter of degree. Inductive strength vs. inductive weakness (more precise to fit these two main types of arguments)
*Inductively strong* = logically strong
*Inductively weak* = logically weak

**Disjunction** means a complex proposition that has the form P or Q. These are simple combined propositions to form the simple proposition “Either P or Q.” P and Q are the disjuncts of the disjunction “Either P or Q.” Example: Either p or q. Not p. Therefore q.

**Reductio ad Absurdum** to show that a premise is <u>false</u>. Demonstrates that a contradiction follows from it - show a certain proposition to be true by assuming it to be false (negation) and the deriving a contradiction.

*Anatomy of* ***Reductio ad Absurdum***

Assume p

Derive a contradiction: q & ~q

Conclusion: p is false (By Reductio ad Absurdum: Law of Non-Contradiction)

Conclusion: ~p is true (Law of the Excluded Middle)

Unit 2

Distinction between **Sense** and **Reference:**

**Sense** is what we understand when we learn its meaning. Specified by a dictionary's definition. Eg. Bachelor = an unmarried male

**Reference** is the class of things to which the word refers - where the concept points. Eg. Bachelor = the class of bachelors who exist in the universe now, and who will exist in the past and future.

**Three Types of Definitions;**

*I.* *Reportive* - reports a word in standard usage. Ex: Impious= not believing in God
*II.* *Stipulative* - fix a meaning (sometimes invent a new word) if definition is not precise or doesn't properly reflect what you're trying to say (not term for a phenomenon). Phenomenon = SPAM (Emails and meat)
*III.* *Essentialist* - compressed theories that we assess and consider the arguments in favour of it. Intend to describe the essential nature of something.

Example: Argument
*Reportive* - a verbal dispute
*Stipulative* - a set of statements that claims that one or more of those statements, called the premises, support another of them, the conclusion.

**Reportive Definition Fails;**

1. *Too broad* - refers to things that aren't included in the reference. Eg. Pillow= something to rest on.
2. *Too narrow* - definition fails to refer to all things included in the reference. Eg. School=an institute that aims to teach children how to read and write.
3. *Too Broad and Too Narrow* - refers to things which a term doesn't apply to but also fails to mention things that the reference does include. Eg. A pen is an instrument designed for writing words. Broad= includes pencils and typewriters as well as pens. Narrow= fails to include pens that are designed for drawing pictures.

**Modus Ponens** - affirming the antecedent (if p then q. it is p. therefore, it is q) Statements of this form are called *conditional statements* or *conditionals*.

**Modus Tollens** - denying the consequent (if p then q, not q. therefore, not p)

**The Principle of Charity** - choice between two or more ways to interpret what someone said (different degrees of plausibility)
*Least plausible interpretation*: often easier to the show the statement is false
*More plausible interpretation*: more difficult to show that the statement is false
- tempting, when faced with a statement to which we disagree, to adopt the least plausible interpretation: makes it easier to show the speaker is wrong
- particularly tempting when the least plausible interpretation is the literal one

Example: Justice is in the interest of the stronger.
- Physically stronger, like Polygamous? (Violates the Principle of Charity)
- Politically stronger? (Follows the Principle of Charity)

Adopt the most charitable interpretation of your opponent's words
**Most charitable interpretation** is the one that makes the opponent's views as reasonable as possible.
* Whenever two interpretations are possible, one should always adopt the more reasonable one, unless something in the context suggests that another interpretation is what the person means.

WHY adopt the Principle of Charity?
- purpose to win the debate
- primary purpose of rational discussion: discover truth and develop reasonable position
- Sophists violate the P of C because their goal is to win
- applies to both single statements and longer passages such as a novel

**Vague statements** have no specific meaning, lack being precise.
**Ambiguous sentences/words** have two or more meanings. The definitions are quite precise.
Two types of ambiguity:
*Semantic* - possible multiple meanings of terms used (ie. Small children can make tasty snacks.)
—> Distributive means each and every member of a class
—> Collective means the class as a whole

* Use is the normal function to refer to something else (sign or symbol of something else)
* Mention is to draw attention to the word itself

*Grammatical* - confusing grammatical construction allowing two interpretations (ie. Last night I shot a burglar in my pyjamas.)

**Synthetic Statements** - not possible to know if they are true or false based on the meaning of the words; truth/falsity does not depend merely on the meaning of the terms
**Analytic Statements** - truth/falsity is simply a function of the meaning, true by definition.
**Contradictory Statements** - truth/falsity is a function of meaning, false by definition.

Conditions that have to be met for a claim to be true or for something to occur…
**Necessary Conditions** - When X is absent, Y cannot occur
**Sufficient Conditions** - When X is present, Y must occur

**Antecedent** - condition that has to be met for a claim to be true or for something to occur
**Consequent** - the outcome or resultant state

Glaucon's Challenge

Glaucon thinks that if we ask if justice is good, we can be confused with three different types of priorities. The term "good" is **semantically ambiguous** because it refers to three meanings.

**Instrumentally good** - good only because of its consequences (bad-tasting medicine)
**Intrinsically good** - good in itself apart from its consequences: we welcome it for its own sake (reading for pleasure)
**Instrumentally and Intrinsically good** - good because of its consequences and in itself (being healthy)

Glaucon is now in a position to make his challenge to Socrates and show that justice is intrinsically good:
- He says that this is not most people's opinion
- Most people consider Justice to be onerous, like bad tasting medicine (instrumentally good)
- As a result, they are just for the sake of the rewards and popularity that come from a reputation for justice
- They consider justice in itself to be avoided as burdensome
- Glaucon asserts that Thrasymachus gave up too easily, as if charmed by a snake

Glaucon challenges Socrates to:
1. Give a definition of justice
2. Demonstrate that justice is *intrinsically good*

Socrates' Response
- Socrates says that he will demonstrate that justice fits into the highest category. He will demonstrate that justice is both intrinsically and instrumentally good.

**The Origin of Justice**
Glaucon gives us an account of 1) human nature and 2) the origin of the concept of justice
Injustice is intrinsically good and only pay lip service to justice for the following reasons:
- they have suffered injustice
- they want to avoid having this happen to them again
- consequently, they decide that it's a good idea to argue with others not to be unjust
- this avoids victimization of future injustice
- this is why they think that justice is instrumentally good: no one values it for its own sake, they would much prefer to be unjust
- justice is useful because of its consequences: if everyone agrees to be just, you get the desirable consequence of never having to suffer injustice

**Glaucon's Account of the Origin of Justice**
- those who lack the power both to do injustice and to avoid suffering come to an agreement with each other neither to do injustice nor to suffer it
- this means that justice is merely instrumentally good

**Human Nature** - everyone prefers injustice and thinks it's intrinsically good
Essence of human nature = *pleonexia* (desire to outdo others and get more and more)

Justice is Unnatural

***I.*** Pleonexia is natural.
***II.*** Justice is unnatural.
***III.*** Justice is an artificial creation which is created by agreement and backed by law.
***IV.*** Furthermore, it is a perversion.
***V.*** Treating fairness with respect is a perversion of our pleonexic human nature.

**The True Man**

- truly strong human wouldn't make the justice agreement with anyone
- anyone strong enough to be just without suffering the consequences would never allow himself to be limited by the laws of justice
- tells the tale of **Gyges' ring**

*Gyges' ring* - Glaucon claims that everyone would use the ring.

**The Project**: Socrates is challenged to give a definition of justice which allows him to demonstrate that it is intrinsically good.

- Socrates will argue that justice is intrinsically and instrumentally good
- To do this, he will give accounts:

***1.*** the origin of justice
***2.*** human nature

The Ideal City and its Classes
(**Necessary** and **Sufficient** conditions)

**The City and the Soul**

- Socrates will ask what justice is in the city (the *polis*), and then see if this definition can be applied to the soul.
- He will construct the ideal or completely good city.

**The Kallipolis**

- He will construct a city that best enables human beings to thrive or do well.
- The Ideal City: Kallipolis
- To do this, **he must recognize the essential aspects of human nature.**
- The Ideal City is the one that allows human beings to flourish.

**The Origin of the City**

*I.* If we inquire into the origins and development of the city, we might better understand what justice is..
*II.* Question: Why do we come together in cities?
*III.* None of us is self-sufficient. We need many things: food, shelter, clothing.
*IV.* We need these just to stay alive.
*V.* Furthermore, different people are good at different things.
*VI.* The city meets our basic needs through the division of labor and the distribution of goods.
*VII.* The city is a necessary condition of a flourishing human life.

**Necessary and Sufficient Conditions**

- A city that meets our basic human needs might be a necessary condition of a flourishing human life, but is it a *sufficient condition*?

**Glaucon: The City of Pigs Objection**

*A.* Glaucon: “It seems that you make your people feast without any delicacies.”
*B.* “If you were founding a city for pigs, Socrates, wouldn’t you fatten them on the same diet?”
*C.* Remember, Glaucon has asserted that *pleonexia* is the essence of human nature.

**Luxury and Pleonexia**
- It is human nature to want more than to have our basic needs met.
- We want luxuries.

**From the Necessary to the Unnecessary Desires**
- If a city is going to permit a flourishing <u>human</u> life, it must also make possible the production of luxuries.
- We want more than we need.
- Where do we stop? When do we stop asking for more?

There is no natural resting place for our desires. There is no fixed point of satisfaction (*Pleonexia*)

**Beyond the Necessary Desires**
- Citizens will want the property of their fellow citizens
- The city itself will want the property of other cities

**The Infinity of Desire**
- What will happen once we have overstepped the limits of necessity and surrendered selves to endless acquisition?

**Conflict**
- Crime
- War
- Empire

**The Guardians**
- We will need a police/warrior class
- They are, initially, to be called the *Guardians*

<u>Necessary conditions</u>
- If the Guardians are to be good, they must have certain physical characteristics: keen senses, speed, strength
- These are necessary conditions of being a good Guardian
- But are they sufficient conditions?
- The Guardians must have SPIRIT
- Individually necessary and jointly sufficient conditions of being a good Guardian

Problem- The Guardian class is a problematic class
- people with these characteristics might be dangerous to the city
- they might be savage to the citizens and to each other

Solution- The Guardians must have the correct education

**The Complex City**
- We now have a complex city with two distinct classes

*1.* **The Workers** - The producer class: They meet our necessary and unnecessary desires

2. **The Guardians** - The warrior class: They wage the wars and deal with the crimes that are the inevitable result of *pleonexia* and the unnecessary desires. (careful education so they don't turn on the citizens and enslave them)

Are these two classes sufficient for flourishing human life?

- No.
- We need a ruling class because this city is so complex.

**Individually Necessary and Jointly Sufficient**

- These three classes are individually necessary and jointly sufficient for a flourishing human life:

1. The Workers
2. The Warriors
3. The Rulers

Who Should Rule?

- What are the conditions of being a good ruler?

**Who Shall Rule and Who Shall be Ruled?**

The Rulers should be:

1. Chosen from the Warrior class
2. Older than the ruled
3. The best of the Warrior class: they must be knowledgeable and capable

**Are these Criteria Sufficient?**

- No.
- The Rulers must also care for the city
- This is vague: What does Socrates mean?

**Caring for the City**

- The Rulers must believe that:

1. If the city does badly, they will do badly
2. If the city does well, they will do well

* That is, they must identify the good of the city with their own good.

**Are these Conditions Sufficient?**

- No.
- They must preserve this belief.
- Neither time, argument, pain, suffering nor fear can make them change their mind.

**Individually Necessary and Jointly Sufficient**

The following conditions are individually necessary and jointly sufficient conditions for being good Rulers.

**Good Rulers Must Be…**

1. Chosen from the Warrior class
2. Older than the ruled
3. The best of the Warrior class: they must be knowledgeable and capable
4. Identify the good of the city with their own good
5. Preserve this belief

**Division of the Guardian Class**

1. Guardians (Warriors)
2. True Guardians (Rulers)

To mark this division:

1. The Warriors are to be called the **Auxiliaries**
2. The Rulers are to be called the **Guardians**

Section 3

Sound arguments;

1. acceptable
2. relevant
3. adequate

- Fallacy - error or weakness that detracts from the soundness of an argument.
- Empirical Truth Claims - can be checked using one of the five senses, past or future
- Non-Empirical Truth Claims - not observable, cannot be checked using 1 of the 5 senses. aesthetic, ethical and about the divine statements.
- Begging the question - when its premises presuppose, directly or indirectly, truth of conclusion
- Inference - draws conclusion from premises known or assumed to be true
- Inconsistency - argument contains a contradiction either in premises or between premises and conclusion
- Exhaustive dichotomy - cover all the possibilities
- Exclusive dichotomy - one alternative rules out the choice of the other
- Exhaustive but not exclusive
- Exclusive but not exhaustive
- Exhaustive and exclusive
- Fallacy of False Dichotomy 1 - a choice between alternatives and assumes they're exhaustive when they are not
- Fallacy of False Dichotomy 2 - a choice between alternatives and assumes they're exclusive when they aren't
- Relevance - premises make the truth of the conclusion more likely
- Non sequitur - traditional term for arguments with irrelevant premises (latin for doesn't follow)
- Fallacies of Relevance;

1. Appeal to Pity - speaker appeals to emotions of pity/sympathy when they are logically irrelevant to the truth of the proposition in question
2. Appeal to Force - speaker threatens the use of force (physical or pressure) as a reason for accepting that a proposition is true
3. Appeal to Popularity - speaker argues that a proposition is true because it's popular
4. Appeal to Authority - So-and-so says X. Therefore, X must be true.
5. Appeal to Personal Qualities - Ad Hominem (argument against the man) - rejects proposition because of personal characteristics of the person when they are logically irrelevant to the truth of that proposition.

Fallacy of Equivocation - arises when a premise has 2 interpretations (ambiguous) and the sense in which the premise is true isn't the sense required by the conclusion.
Adequacy - premise supports the conclusion
Jumping to conclusions - relying on premises that are inadequate to support the conclusion

Argument - set of statement that claims one or more premises justify the truth of the conclusion
Deductive arguments - claims that the true premises guarantee the true conclusion (strict proof)
Deductive Validity - all premises are true, conclusion must be true
Counterexample - argument of the same logical form as deductive but has a true premise with false conclusion.
Fallacy of Affirming the Consequent - if p, then q… q, therefore p (invalid - therefore counterexample can be found)
Modus Ponens Affirming the Antecedent - if p, then q…p, therefore q VALID
Fallacy of Denying the Antecedent - if p, then q… -p, therefore -q (counterexample)
Modus Tollens Denying the Consequent - if p then q…-q, therefore -p VALID

Classes and parts of the soul;
guardians —> reason
auxiliaries —> spirit
workeres —> appetite