

GES 106: PHILOSOPHY AND LOGIC

NATIONAL UNIVERSITIES COMMISSION



PHILOSOPHY AND LOGIC
for Distance Learners in the Nigerian University
System

Acknowledgements

GES 106: Philosophy and Logic is a three unit course and was produced by a team of Nigerian National Trainers, who were trained and supported by experts in blended learning pedagogy from ODL, NUC and the Open University, UK.

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COURSE SYLLABUS

Course Description

This course is a general introduction to Philosophy and Logic. The course will cover topics such as the nature and scope of philosophy, the traditional and special fields of philosophy. We shall look at the different conceptions of the term 'philosophy'. After this, selected problems in the major branches of philosophy, namely, epistemology, metaphysics, ethics and logic, will be discussed. In epistemology, we shall attempt to define and discuss epistemology as a theory of knowledge and also look at the major theories of truth. In metaphysics, we shall define metaphysics, discuss the two theories of reality, the problem of universals and particulars and the problem of substances and quality. In ethics, we shall define ethics, discuss the scope of ethics and practical moral problems. We shall look at a number of theories that are required in making correct moral judgments. Finally, we shall attempt a definition of logic in the strict, technical and professional sense and evaluate arguments and critical thinking which are indispensable to national development.

Aims and Objectives

- The course will develop your verbal, analytical and critical thinking skills.
- It will help you to cultivate the ability to isolate and examine the principles and issues involved, both in complex theoretical situations and in concrete, actual problems.
- It will widen intellectual perspectives within the context of a humanistic educational experience.
- It will enhance your knowledge of the nature of reality, the meaning of life, social structure and development, knowledge and values, and the governing principles of the universe.

MODULE 1: The Nature and Subject Matter of Philosophy

(a) *What is Philosophy?*

This topic is to intimate you with the controversy associated with attempts to define philosophy. This topic shall introduce you to the non-univocal nature of the definitions proffered by different philosophers.

Attempts shall be made to introduce you to different definitions given by different notable philosophers such as Socrates, Plato, Aristotle, Wittgenstein, Bertrand Russell, among others.

You shall learn that the only common element in most of the definitions is its posture as a critical inquiry into nature of things.

(b) Different Conceptions of Philosophy

You shall learn that going by the fact that there is no univocal definition of philosophy; attempts are made by scholars to capture the definition by classifying the different ways of doing philosophy under some conceptions. For instance, there can be,

- i) The Socratic conception of philosophy, according to which philosophy should be critical, philosophers must live by examples, they must be moral exemplaries, they should be ready to stand by the truth, and they should not be dogmatic, etc. This is usually associated with Socrates and Plato.
- ii) Philosophy as Contemplation, according to which philosophical questions and answers are open-ended. Philosophers are citizens of the universe, they should be versatile in the knowledge of the world, and do not believe in the compartmentalization of knowledge. This is usually associated with Bertrand Russell.
- iii) Philosophy as Analysis, according to which philosophy should be contented with linguistic clarification and conceptual analysis. This is represented by Wittgenstein's idea of philosophy as a method of therapy.
- iv) Philosophy as the Unity of Theory and Practice, according to which philosophy can be seen as a way of uniting theory and practice to enable us make the world better than it is. Example can be found in the Marxist eleventh thesis in his critique of Feuerbach and the earlier idealists and materialists.

You shall learn the similarities and differences among these four conceptions.

Module 2: Epistemology

Here, you shall be introduced to a brief discussion of Epistemology as a branch of philosophy that concerns itself with such questions relating to the sources, scope, extent and justification of knowledge.

(i) Sources of Knowledge

You shall be introduced to some epistemological subjects such as the Empiricist and Rationalist debates on the question of source(s) of genuine knowledge.

(ii) Scope of Knowledge

You will be introduced to the question of what can be rightly referred to as knowledge? The /belief distinction shall be highlighted.

(iii) Justification of Knowledge

You shall be introduced to some questions about the traditional conception of knowledge as justified-true-belief, inferential and non-inferential knowledge.

(iv) Types of Knowledge

Analytic or A Priori vs Synthetic or A Posterior Judgments. The distinctions shall be highlighted.

(v) Theories of Truth

The theories of truth shall be highlighted

Module 3: Metaphysics

What is Metaphysics?

You shall be intimated with questions concerning what metaphysic is. You shall be briefly introduced to the views of authors like Arthur Schopenhauer, St Thomas Aquinas, Aristotle, Taylor and some of such other philosophers.

The points that metaphysics is concerned with are the questions of the ultimate constituent of the universe as well as the origin of the universe, and the question of metaphysics and the first principles, causality and essence shall be highlighted.

The problem of idealism versus materialism as answers to the question of the ultimate constituent of the universe shall be discussed. You shall be engaged in the debate whether idea or spirit or the non-material is the ultimate constituent or whether the concrete, tangible or material is the ultimate constituent.

Module 4: Ethics

a) What is ethics?

You shall be introduced to both the loose or ordinary sense of Ethics as well as the technical sense of Ethics.

b) What is Morality?

As a subject that is central to ethics, the meaning, origin and function of morality shall be explained. You shall be intimated with the sense of morality as a set of principles meant to guide human co-existence. Attempts shall be made to highlight the points that morality is social in

origin because it is conventional. It is social in function because its function is to regulate human peaceful co-existence. It is social in function because it cannot be enforced by force or a threat of force.

i) Morality and Law

The similarity and differences between Morality and Law shall be explained. While both are meant to regulate human co-existence, morality is conventional and Law is consciously legislated. Morality is non-justiciable and Law is justiciable. Law can be enforced by force or a threat of force and Morality cannot be enforced by force or a threat of force.

ii) Morality and Etiquette

You shall be shown the reason why even Morality and Etiquette are similar in regulating human behaviours in the community of others, also why Morality has a wider scope of operation than Etiquette. The fact that Etiquette is influenced by tastes and aesthetics shall be highlighted.

iii) Morality and Prudence

You shall observe that even when Prudence and Morality are concerned with the regulation of human behaviours, morality is concerned with human beings in the community of others, while prudence is concerned with the regulation of the private behaviours of individuals.

(c) Teleological vs De-ontological ethical Theories

You shall learn that there are different theories of moral judgments. These different ethical theories of moral judgments can be classified under two headings. They are either Teleological or De-ontological. The Teleological theories are also referred to as Consequentialist theories while the De-ontological theories are Non-consequentialist theories. You shall be exposed to some examples of the teleological theories (such as Ethical Utilitarianism, Ethical Egoism, Ethical Altruism, among others) and some examples of the de-ontological theories (such as, Ethical Intuitionism, the Divine command, Kant's categorical imperative, among others).

Module 5: Logic

What is Logic?

You shall learn that Logic is not just a science of reasoning, but that of clear and adequate reasoning. The fact of difference between logic which deals with the principles and techniques of adequate reasoning and psychology which deals with processes of thinking shall be highlighted. It is important for you to know that Logic is either Informal or Formal. It is informal when it uses the ordinary language and formal when it uses symbolic statements.

Informal Logic

- Traditional Laws of Reasoning

Under this topic, you shall be familiarized with the traditional laws of reasoning such as the Law of Identity, Law of excluded Middle, Law of Non-contradiction, among others.

- Structure of Arguments

You shall be introduced to the structure of simple arguments as premises and conclusions. The inductive/deductive forms of arguments shall be discussed. Questions of validity, invalidity and soundness shall be demonstrated.

- Informal Fallacies

This topic shall introduce you to such fallacies or errors of reasoning as the Argument against the Person (*Argumentum ad Hominiem*), Appeal to Pity (*Argumentum ad Misericordiam*), Appeal to Authority (*Argumentum ad Vericundiam*), Appeal to Force (*Argumentum ad Baculum*), Begging the Question (*Petitio Principii*) among others.

Formal Logic

- Propositional Variables

This topic shall introduce you to the point when Logicians are moving from ordinary language to Symbolic language, the variables they can use are P,Q,R,S,T,U,V...Z

- Logical Connectives and their Logical Meanings

You shall be taught that when changing from ordinary language to symbolic language, some logical connectives are to be used to replace the ordinary English language connectives. These connectives are, Conjunction ‘ \wedge ’, which replaces ‘and’, Disjunction ‘ \vee ’, which replaces ‘either-or’, Conditional ‘ \rightarrow ’, which replaces ‘if...then’, Bi-conditional ‘ \leftrightarrow ’, which replaces ‘if and only if’, and Negation ‘ \sim ’, which means it is not the case. Apart from these, you shall be taught about the conditions under which these connectives and the propositions form with them can be true or false.

- Changing Ordinary Sentences to Symbolic Sentences

You shall be introduced to the use of schemes of abbreviation in terms of propositional variables and the logical connectives to change ordinary sentences to symbolic sentences.

- Rules of Inference and Formal Proof of Validity

You shall be introduced to such rules of inference as, Double Negation, simplification, Modus Ponens, Modus Tollens, among others, for the purpose of formal proof of validity of arguments.

- Truth-Table

- Construction of Truth-Table

You shall be introduced to the rules guiding the construction of Truth-Table. It is important to inform you of the rule that the number of lines to be generated shall be $2^{\text{number of propositional variables}}$. The knowledge of the logical connectives and their logical meanings shall be emphasized.

- Use of Truth-Table for the Determination of Equivalence

You shall be taught that two symbolic statements or propositions are equivalent if on the same lines on the truth-table they both have the same truth-values all through.

- Use of truth-table for the determination of Validity

You shall be taught that an argument is valid if on the truth-table there is no instance when the premises are true and the conclusion is false.

Suggested Materials

Ayer A. J. *The Problem of Knowledge* (New York: Penguin, 1986)

Ayer A.J. *Language, Truth, and Logic* (New York: Dover Publications, 1946)

Chisholm R.M. *Theory of Knowledge* (New Delhi: Prentice Hall, 1987)

Copi I.M. Cohen C. *Introduction to Logic* (London: Prentice-hall, 1998)

Dauer F.W. *Critical Thinking: An Introduction to Reasoning* (Oxford: Oxford University Press, 1989)

Ewing A.C. *The Fundamental Questions of Philosophy* (London: Routledge and Kegan Paul, 1951)

Hamlyn D.W. *The Theory of Knowledge* (London: Macmillan, 1970)

Hospers J. *Human Conduct: An Introduction to the Problems of Ethics* (New York: Harcourt, Brace World, 1961)

Kalish D., Montague R. and Mar G. *Logic: Techniques of Formal Reasoning* (New York: Harcourt Brace Jovanich, 1980)

Lemmon E.J. *Beginning Logic* (Ontario: Thomas Nelson , 1965)

Locke J. *An Essay Concerning Human Understanding* (London: Aldine Press, 1961)

Offor F. *Essentials of Logic* (Ibadan: BookWright Publishers, 2012)

Onigbinde A. *What Is Philosophy?* (Ibadan: Frontline Books, 2009)

Plato, *Five Dialogues: Euthyphro, Apology, Crito, Meno, Phaedo*, Grube G.M.A. (Trans.) (Indianapolis: Hackett Publishing Company, 1981)

Plato, *The Republic*, Lee H.D.P. (Trans.) (Baltimore: Penguin, 1962)

Politzer G. *Elementary Principles of Philosophy* (New York: International Publishers, 1976)

Roth M.D. and Galis L. (eds.) *Knowing: Essays in the Analysis of Knowledge* (New York: Random House, 1970)

Wolff Robert Paul (ed), *About Philosophy* (New Jersey: Prentice Hall, 1981)

Study Calendar for GST 102: Introduction to Philosophy and Logic

Week	Student Activity	Assessment and Feedback	Support	Operational Issues

Before	Registration and distribution of study guide			
1	Familiarisation and Orientation		Meeting with tutors and support staff,	Distribution of resources (printed materials, CDs, etc)
2	Reading and studying Module 1	Feedback from learners	Technical (mobile, Internet, etc)	Tutors and support staff will be available to attend to learners online at a specified period of time
3	Reading and studying Module 2 Unit 1	Formative assessment (MCQ, short essay, true or false, fill in the gap) 1	Technical (mobile, Internet, etc)	Making adequate services and facilities available during this period
4	Reading and studying Module 2 Unit 2	Feedback from learners	Technical (mobile, Internet, etc)	Tutors and support staff will be available to attend to learners online at a specified period of time
5	Revision of Module 1 and 2	Responses from the learners/ Tutors feedbacks to learners' responses	Internet Connectivity/ Emails, Skype, Academic blogs, etc	Tutors and support staff will be available to attend to learners online at a specified period of time
6	Reading and studying Module 3 Unit 1	Feedback from learners	Technical (mobile, Internet, etc)	Tutors and support staff will be available to attend to learners online at a specified period of time
7	Reading and studying Module 3 Unit 1	Formative assessment (MCQ) 2	Technical (mobile, Internet, etc)	Making adequate services and facilities available during this period
8	Reading and studying Module 4 Unit 1	Feedback from learners	Internet connectivity	Tutors and support staff will be available to attend to learners online at a specified period of time
9	Reading and studying Module 4Unit 2	Formative assessment (MCQ) 3	Technical (mobile, Internet, etc)	Making adequate services and facilities available during this period.

10	Revision of Module 3 and 4	Responses from the learners/ Tutors	Internet Connectivity/	Tutors and support staff will be available
		feedbacks to learners	Emails, Skype, Academic blogs	to attend to learners online at a specified period of time
11	Reading and studying Module 5 Unit 1	Feedback from learners	Internet connectivity	Tutors and support staff will be available to attend to learners online at a specified period of time
12	Reading and studying Module 5 Unit 2	Formative assessment (MCQ) 4	Technical (mobile, Internet, etc)	Making adequate services and facilities available during this period
13	Reading and studying Module 5 Unit 3	Feedback from learners	Technical (mobile, Internet, etc)	Tutors and support staff will be available to attend to learners online at a specified period of time
14	Final Revision / Students personal revision	Responses from the learners/ Tutors feedbacks to learners	Internet Connectivity/ Emails, Skype, Academic blogs etc	Tutors and support staff will be available to attend to learners online at a specified period of time
15	Examination week	Responses from the learners	Examamination centres	Examination in located centres

Study Guide for GST 102: Introduction to Philosophy and Logic

General information

- It is mandatory for you to read and understand this study guide carefully at the start of semester. It contains important information to facilitate achieving success in the course. If anything in the study guide is unclear, please consult your lecturer for clarifications and further assistance before registering for the course.

- You are expected to register for this course within the time frame specified on the student's information board.

Course information

- **Course Code & Course Name: GST 102: Introduction to Philosophy and Logic**
- **Credit points: 02**
- **Year: 100 level**
- **Semester: Rain**
- **Open Time In _____ (to be provided by course coordinator)**
- **Open Time Out _____ (to be provided by course coordinator)**

About the course

- This course provides the opportunity for you to acquire desirable knowledge about the nature and scope of philosophy and logic. You will gain mastery of the competencies needed to be able to identify and distinguish crooked reasoning from logical and philosophical reasoning. You will also gain competencies in examining and discussing the metaphysical, epistemological, ethical, and logical issues about reality and life.

Mode of interaction

- Interaction with you can be through the following media:
 - ✓ Internet;
 - ✓ GSM SMS;
 - ✓ Facebook;
 - ✓ Blogs
 - ✓ Twitter, etc

Introduction to the course

- You are welcome to GST 102: Introduction to Philosophy and Logic.
- It is a 2-Unit course.
- (Take Note: 2 units = 2 hours of contact per week)

Aim of the course

- To prepare professionally competent and versatile graduates with critical and deep understanding of the world.
- To prepare you with critical and analytical tools for understanding and dealing with issues in the society

Learning objectives

General Aim: The course will develop your verbal, analytical and critical skills.

- Course Objectives
- At the end of the course, you should be able to:
 - ✓ Identify and examine the principles and issues involved in complex theoretical situations and concrete problems.
 - ✓ Discuss within wider intellectual perspectives within the context of a humanistic educational experience.
 - ✓ Explain the nature of reality and the meaning of life
 - ✓ Describe social structure and development, knowledge and values, and the governing principles of the universe.

Symbols and acronyms

- Materialism - the belief that matter is the ultimate constituent of the universe
- Idealism - the belief that idea or spirit is the ultimate constituent of the universe

Taking the Course

- The course outline is available on _____ (hyperlink to be provided by the instructor)
- Each Phase is presented as modules with related topics. Topics are taken in series using diverse teaching/learning methods.
- A typical teaching-learning sessions for a module comprises the following steps:
 - ✓ Access the introductory lecture on the blog
 - ✓ Review the PowerPoint presentations online
 - ✓ Participate in online chat/discussion forum as arranged

- ✓ Access and read other reference documents for the module
- ✓ Take the examinations

Outline of Lecture sessions

- A lecture unit will be uploaded on the course blog for you to access. Audio and video downloads will also be available through the blogs. Support CDs will be made available for you on registration and at intervals through the student support centres.
- You will be given time to work with the materials provided along with the topics
- At a particular period each week, you will be expected to participate in a chat or a discussion forum
- The schedule for a chat/discussion forum will be communicated to you.
- Practice tests will be administered at the end of each lecture unit for your self-assessment and revision.
- A Tutor-marked tests (multiple choice) will be provided for each module
- A list of frequently asked questions (FAQ) and answers will be made available to you.
- A list of suggested readings will be made available to you.
- Additional instructions to facilitate learning may be provided by teachers as deem necessary

You must participate in 75% of the chat/forum to qualify for the exam to qualify for the final examination

Taking the practice test improves your chances of success in the course

Tutor-marked tests
accounts for ____% of the
final grade for the course,
so submit promptly!

How to prepare for the final examination for this course

This study guide provides an in-depth knowledge you need to successfully take the final examination. You are encouraged to read and understand the entire content to ensure good performance in this course.

- You should note that the sample questions and practice tests provided at the end of each lecture will help your self assessment and promote revision before taking the final examination. So, take the practice questions
- You should make use of the supplementary CDs provided for theory and mastery of skills for the procedures as these will expand your knowledge and competency. Watching of the recorded procedures on videos and the CDs and other media will enhance good performance in theory and practical examinations. So, take time to read and watch all support materials and video recordings
- Suggested readings will enhance your performance in the final examination. Make sure you read all recommended texts

Prerequisites for Examination

- For you to be eligible to sit for the final examination in this course, you must fulfill the following requirements:
 - Participate in at least 75% of all online interactions
 - A 100% Submission of all assignments.

Suggested questions

Determine the validity or invalidity of the following symbolic arguments:

$$(i) P \rightarrow Q$$

$$\sim P \rightarrow R$$

$$\sim Q \rightarrow \sim R$$

$$\therefore R$$

$$(ii) P \rightarrow Q$$

$$\sim P \rightarrow R$$

$$\sim Q \rightarrow \sim R$$

$$\therefore P$$

$$(iii) ((P \leftrightarrow Q) \rightarrow R) \square \sim R$$

$$\therefore \sim (P \rightarrow Q)$$

$$(iv) (R \leftrightarrow P \square Q) \square P$$

$$\sim S \rightarrow (Q \leftrightarrow P \square \sim R)$$

$$\therefore S$$

$$(v) (P \square Q) \square \sim(P \square Q)$$

$$P \square \sim Q \rightarrow R$$

$$\sim P \square Q \rightarrow R$$

$$\therefore R$$

Assessment - Continuous Assessment

Assessment in this course will be done considering your active participation in all interactive sessions, quality of written assignments, records of materials used as references in all assignments, regular feedback from teachers and you and performance in examinations. Details of assessment strategies are as follow:

- ✓ Participation in group forum/chat room: (10%) with contributions showing thoughtful preparation for the classes.

- ✓ Assignment: individual term papers, group reports (10%): List of assignments for each topic is available on the content area of the course in the blogs
- ✓ End of topic test: End of topic short tests comes within seven days of completing the topic (practice test)
- ✓ Tutor marked tests in form of multiple choice questions and short essays. (10%)
- ✓ End of course test takes one hour and you will be informed when to log on to do the test. Questions are withdrawn at the end of one hour after the questions would have been presented online. The results are released automatically

Assessment- End of Course Assessment

1. End of course Assessment:

- ❑ MCQs: This comprises of 20 multiple choice questions covering all topics covered in the course (20%)
- ❑ 10 fill in the gap questions (20 %)
- ❑ Theory: Short essay questions (20 %)
- ❑ Time allotted for this examination is 1 hour 30 minutes and it follows the same format as done with the end of topic tests
- ❑ Pass mark for this course is 40%

Feedback and Advice:

- Feedback will be from teachers to you and you to teachers.
- The Course has a feedback blackboard available on _____ (hyperlink to be provided by the tutor).
- All assignments have information about deadlines for submission after which submissions will certainly be rejected.
- Results of all assignments (scores) will be released within 72 hours after the deadlines.
- Summary of records of your participation in all online sessions will be presented on the feedback blackboard for the course
- You can also share information with peers on the feedback blackboard
- You are required to submit your proposed topics for term papers on the assignment

- You have a course adviser that can be contacted through an e-mail address, for information, clarifications and support.

Verification of Integrity of Submitted Assignments and Guidelines for Written Assignments

The integrity of submitted written assignments would be determined by the following:

Compliance with standards of writing in English (grammar and tenses, construction), Appropriate formatting, Adoption of appropriate referencing format, Adequate referencing and documentation of all materials used in doing the assignment).

- ☒ Copying of each other's work attracts zero scores.
- ☒ Avoidance of Plagiarism: Plagiarism involves using the work of another person and presenting it as one's own.
- Plagiarism is a serious breach of the Open and Distant Learning (ODL) rules and carries significant penalties which are;
 - failure in the course, and/or
 - Referral to the Open Distance Learning Disciplinary Committee.

Glossary

- In this section, the definitions to all terms, jargon, unusual wording and expressions found within the text will be listed (in alphabetical order).

Index / Tagging

- Here, important terms, names, places, events, and topics along with the page numbers where they are mentioned will be listed (in alphabetical order).

GST 102: INTRODUCTION TO PHILOSOPHY AND LOGIC

Semester: Rain Semester

Number of Units/Contact Hours: 2 Units

Course Description

This course is a general introduction to Philosophy and Logic. The course will cover topics such as the nature and scope of philosophy, the traditional and special fields of philosophy. We shall look at the different conceptions of the term 'philosophy'. After this, selected problems in the major branches of philosophy, namely, epistemology, metaphysics, ethics and logic, will be discussed. In epistemology, we shall attempt to define and discuss epistemology as a theory of knowledge and also examine the major theories of truth. In metaphysics, we shall define metaphysics, the two theories of reality, the problem of universals and particulars and the problem of substances and quality. In ethics, we shall define ethics, the scope of ethics and practical moral problems. We shall discuss a number of theories that are required in making correct moral judgments. Finally, we shall attempt a definition of logic in the strict, technical and professional sense and evaluate arguments and critical thinking which are indispensable to national development.

Aims and Objectives

- The course will develop your verbal, analytical and critical thinking skills.
- It will help you to cultivate the ability to isolate and examine the principles and issues involved both in complex theoretical situations and in concrete, actual problems.
- It will widen your intellectual perspectives within the context of a humanistic educational experience.
- It will enhance your knowledge of the nature of reality, the meaning of life, social structure and development, knowledge and values, and the governing principles of the universe.

MODULE 1: The Nature and Subject Matter of Philosophy

Expected Duration

This section is expected to take two weeks or four contact hours.

Objectives

At the end of this module, you should be able to:

- identify and discuss the controversies surrounding the various attempts to define Philosophy; and
- provide possible definitions and conceptions of Philosophy from the ancient, through to the contemporary period.

(a) What is Philosophy?

This topic is to intimate you with the controversy associated with attempts to define philosophy. There is no univocal definition of philosophy.

There are different definitions given by different notable philosophers such as Socrates, Plato, Aristotle, Ludwig Wittgenstein, Bertrand Russell, among others. The only common element in most of the definitions is its posture as a critical inquiry into the nature of things.

Etymologically, Philosophy has been traced to two Greek Words, 'Philo' and 'Sophia' which means 'Love' and 'wisdom' respectively. From this, Philosophy can be defined as love for wisdom. As love for wisdom, Philosophy does not claim to be wisdom, but a constant and persistent search for wisdom. This search for wisdom presupposes a critical attitude.

In their search for wisdom, philosophers do not take any received opinions as knowledge. Opinions are subjected to critical examinations and only those which survive the critical tests are qualified to be held tentatively until they are confronted by superior opinions.

Philosophy has also been defined as a no-man's land between science and theology. It is like science because it engages in critical understanding of the world and like theology because it inquires into the world beyond sense-experience. It differs, because of its critical nature, from science which uses empirical examination and experimentation to study the world. It differs from theology which relies on faith and is mainly concerned with the world beyond sense-experience.

Philosophy is also defined as a Gad-fly because it is a discipline that keeps human beings always on their toes in respect of received opinions. In various ways, philosophy has been defined as the attitude and skills for thinking critically about the world and the universe.

(b) Different Conceptions of Philosophy

Going by the fact that there is no univocal definition of philosophy; attempts are made by scholars to capture the definition by classifying the different ways of doing philosophy under some conceptions. For instance, there can be,

- a) The Socratic conception of philosophy according to which philosophy should be critical and philosophers must live by examples, be moral exemplaries, be ready to stand by the truth, and should not be dogmatic, etc. This conception is usually associated with Socrates and Plato.
- a) Philosophy as Contemplation according to which philosophical questions and answers are open-ended. Philosophers are citizens of the universe, versatile in the knowledge of the world, and do not believe in the compartmentalization of knowledge. This is usually associated with Bertrand Russell.
- a) Philosophy as Analysis according to which philosophy should be contented with linguistic clarification and conceptual analysis. This is represented by Wittgenstein's idea of philosophy as a method of therapy.
- a) Philosophy as the Unity of Theory and Practice according to which philosophy can be seen as a way of uniting theory and practice to enable us make the world better than it is. Examples can be found in the Marxist eleventh thesis in his critique of Feuerbach and the earlier idealists and materialists.

(i) and (ii) are similar in their view concerning the possibility of the use of philosophy to effect changes in the society, and they are both different from (iii) because it merely calls for conceptual analysis and linguistic clarification. However, (iv) unites the three of them.

However, given these conceptions, Philosophy has four major branches which are: Epistemology, Metaphysics, Ethics and Logic.

Practice Questions

- Explain the statements
 - Philosophy is a no-man's land between science and theology
 - Philosophy as wisdom
- In one sentence state one difference between
 - Philosophy as analysis; and
 - Philosophy as contemplation

MODULE 2: Epistemology

Expected Duration

This section is expected to take two weeks or four contact hours

Objectives

At the end of this section, you are expected to be able to:

- define and discuss epistemology as a theory of knowledge;
- explain and discuss the nature, sources, scope, and types of knowledge; and
- distinguish knowledge from beliefs, opinions, dogma and faith.

(a) What is Epistemology?

Historically, the term epistemology is from the Greek words "episteme" meaning knowledge and "logos" meaning theory or science. From this, epistemology can be viewed as the theory or science of knowledge. Epistemology is the branch of philosophy that concerns itself with such questions relating to the sources, scope or extent, and justification of knowledge.

(i) Sources of Knowledge

There are some epistemological subjects such as the Empiricist and Rationalist debates on the question of source(s) of genuine knowledge. For the empiricist, sense experience is the ultimate source of genuine knowledge and for the rationalist, reason is the ultimate source of genuine knowledge. We use the word ultimate here because empiricism does not deny the role of reason, and rationalism does not deny sense experience. Each maintains its own thesis because while empiricism accords priority to sense-experience rationalism accords priority to reason.

(ii) Scope of Knowledge

Knowledge may be seen as Justified-True-Belief. This account of knowledge is referred to as the traditional account of knowledge. According to this account, 'S knows that P' means that (i) S believes that P, (ii) P is true, and (iii) S has reasons to believe P. From the fulfillment of these three criteria, it is assumed that S can rightfully claim to know P. This idea of knowledge as Justified-true-belief is derived from the notion of the - three criteria of knowledge.

However, this conception has been challenged by a philosopher called Edmund Gettier, who argued that the three criteria are only necessary but not sufficient to guarantee knowledge. This has led to controversies on the question of what knowledge is.

(iii) Justification of Knowledge

Knowledge as justified-true-belief can be inferential or non-inferential. A justified-true-belief can be inferential if the belief relies on other belief(s) for its justification. It is non-inferential when it does not rely on other belief(s) for justification but it is self-justifying. The non-inferential beliefs are also referred to as foundations of knowledge. The inferential will rely on the non-inferential.

(b) Types of Knowledge

There are different types of knowledge, some of which are: Analytic or *A priori* and Synthetic or *A posteriori*. Analytic or *A priori* knowledge can only be established through pure reason while synthetic or *A posteriori* knowledge can only be established through the senses. Some examples of analytic or *A priori* knowledge are (i) All bachelors are unmarried male and (ii) $2+2=4$. Some examples of synthetic or *A posteriori* knowledge are (i) there are 20 students in this class and (ii) All metals when heated expand. The only difference between analytic and *A priori* is that analytic refers to statements derived from pure reason while *A priori* refers to judgments or truth derived from pure reason.

In the same way, synthetic refers to statements from sense experience and *a posteriori* refers to knowledge or truth derived from experience. However, there are other differences between *analytic/a priori* on the one hand and *synthetic/a posteriori* on the other. For instance:

- A) Analytic/*A priori* does not require sense-experience, synthetic/*A posteriori* requires sense experience.
- A) Analytic/*A priori*, when true is necessarily true, synthetic / *A posteriori* when true is contingently true.
- A) a denial of analytic /*A priori* will lead to self contradiction, a denial of synthetic/*A posteriori* will not lead to self-contradiction.
- A) The predicate of a synthetic statement adds new information to the subject, the predicate of an analytic statement does not add new information to the subject, and it merely explains it.

(c) Theories of Truth

Epistemology is also concerned with the problems of Truth. One of such problems is ‘what is truth?’ There are some theories in this respect:

- i) **Correspondence Theory of Truth:** According to this theory, a statement is true if it corresponds to reality or an actual state of affairs. In other words, a statement is true if it conforms to a fact. This theory emphasizes agreement between beliefs and facts.

- ii) ***Coherence Theory of Truth***: According to this theory, a statement is true if it coheres with an already established system of truth. This theory sees truth as a relation between judgment and the system to which it belongs. This theory emphasizes agreements among beliefs.
- iii) ***Pragmatist Theory of Truth***: This theory considers the idea of truth to be an affair of practical experience. That is, the truth of a statement or proposition is determined by its practicability. Therefore, a proposition is true if what it affirms is practicable or realizable.

Practice Questions

1. What is epistemology?
2. What is knowledge defined as?
3. Correspondence theory of truth states that...
4. Coherence theory of truth states that...
5. In two sentences, compare and contrast a priori and a posteriori knowledge.

MODULE 3: Metaphysics

Expected Duration

The topic is expected to take one week or two contact hours

Expected Objectives

At the end of this topic, you should be able to:

- Define and explain the concept of Metaphysics
- Discuss issues concerning the question of the origin, nature and constituent of the Universe.

What is Metaphysics?

Historically, metaphysics comes from the Greek words "Meta" (After or Beyond) and "Physika" (Physics). In the literal sense, metaphysics can be translated as "beyond the physical".

According to authors like Aristotle, St Thomas Aquinas, Arthur Schopenhauer, Richard Taylor and some of such other philosophers, metaphysics is the branch of philosophy that is concerned with the questions of the ultimate constituent and origin of the universe. It deals with questions of First principles, Causality and Essence.

Metaphysics can therefore be regarded as a comprehensive account of the universe. Every comprehensive account of experience, of the world, of the universe is informed by a theory of being or principle of reality. Reality is central to all metaphysical enquiries.

Idealism and Materialism

Idealism and materialism provide different answers to the question of the origin and the ultimate constituents of the universe.

Idealism: This theory comes from "idea". It states that idea, spirit, or non-matter provides the origin and the ultimate constituent of the universe. This means that physical, external world that we see is a product of and depends on idea since ideas are conceived in the mind. In other words, the idealists believe that the physical world exists but its reality and existence depend on the mind. This confirms the common adage by the idealists that "To be is to be perceived".

Materialism: The materialists hold the position that matter is the basic substance of everything, that is, the ultimate constituent of the universe is matter. It must be noted that the materialists do deny the existence of spirits and gods; what they are saying is that the existence of entities like gods, spirits, angels, mind, and so on must be explainable in material terms. In other words, while the idealists are saying that idea is primary, the materialists are saying matter is primary.

Universals and Particulars

Universals refer to concepts like humanity, beauty, justice, goodness, etc. Particulars are the individual things that exist in the universe e.g. woman, man, blue shirt, blue car, and so on. Universals are what the individual things share in common. Particular things come into being and pass away, while universals remain or subsists. For instance, particular men and women give an instant of humanity, but no particular man or woman is humanity itself. We also notice universals in particular objects or things that exhibit them. For instance, we recognize beauty in particular beautiful things, justice in particular just acts, and so on. However, what one takes as universal or particular is determined by one's view of reality, that is, whether one is a materialist or an idealist.

Substances and Qualities

Metaphysics raises questions concerning which of the substances and qualities actually represent the constituents of the universe. Substances are regarded as the substratum which is not open to sensory observation but determines the nature of those which are open to the senses. The Qualities are the attributes of the substances and the qualities are the ones that are open to the senses. For example humanity or humanness is the substance, of size, shape, colour, texture etc.

Practice Questions

1. Answer True or False
 - Metaphysics deals with occultism
 - Idealism only talks of ideas
2. Idealism states that...
3. Materialism states that...
4. Metaphysics as a branch of philosophy is concerned with...

MODULE 4: Ethics

Expected Duration

This topic is expected to last two weeks or four contact hours

Expected Objectives

At the end of this topic, you are expected to be able to:

- describe the nature of Ethics as a branch of Philosophy
- define the roles of Ethics as Moral Philosophy
- discuss issues concerning the nature, scope, sources, origin and functions of Morality
- identify the difficulties involved in making correct moral judgments
- discuss the critical steps and theories that are required in making correct moral judgments

What is Ethics?

Historically, the term Ethics is from the word "Ethos" (Costume). Ethics can be defined in both the loose or ordinary sense and in the technical sense. In the ordinary sense, ethics is as a set of principles guiding human behaviours, while in the technical sense; it is as a branch of philosophy that is concerned with questions of sources, scope, and justification of morality.

On the basis of its concern with morality, ethics can also be referred to as Moral Philosophy.

There are traditional branches of ethics, namely; Descriptive Ethics, Prescriptive Ethics or Normative Ethics, Meta-ethics or Critical Ethics and Applied Ethics.

- i) **Descriptive Ethics:** this is the branch of ethics that uses the descriptive method of science in describing the phenomenon of morality. This approach can be by mere description or comparison. It may describe morality across time or culture.
- ii) **Prescriptive or Normative Ethics:** this is the branch of ethics that is concerned with setting the criteria or standards of good moral conduct. The standards that people hold about what is good or bad, right or wrong and beneficial or evil, affect almost all other things they do. In an attempt to avoid what is morally bad or encourage what is morally good, people refer to moral standards. Those moral standards are given by normative ethics in accordance with three main approaches to moral theories. The three approaches are: teleological or consequentialist theories, deontological theories and virtue ethics. Examples of ethical theories used by normative ethics include: Kant's Categorical Imperative.
- iii)) **Meta-ethics or Critical Ethics:** Meta-ethics is the aspect of ethics which examines the meaning, nature and origin of moral standards. Meta-ethics raises questions

about what an ethical standard really means. An example of meta-ethics is the Is/Ought distinction identified by the Analytic school in the Twentieth century. Another example is that of the question of the origin of moral codes. There have been various explanations to this. Some people hold that moral codes have their origin in God, while some other moral philosophers explain that they originate from society.

- iv) **Applied Ethics:** Applied ethics refers to the branch of ethics which examines the moral status of concrete social issues. It does this by using ethical theories which we have in normative ethics to assess practical issues of everyday life. When faced with making a moral decision on any particular or definite moral issue, more often than not, we usually desire to know what the moral status of such an issue generally is.

(b) What is Morality?

Morality is popularly seen as a set of principles meant to regulate human co-existence. It is a set of principles with which the society moderates the excesses of the human beings in the community of others. There are many reasons commonly given by people for acting morally.

Morality is conventional, that is people grow up within human communities to imbibe the moral norms. Societies do not consciously legislate morality; they only find themselves in it. However, this does not mean that an individual cannot grow up to criticize the morality of the society. The criticism the individual is given is also a development of having imbibed the morality of that culture.

Morality is social in origin because it is conventional. It is social in function because its function is to regulate human peaceful co-existence. It is social in sanction because it cannot be enforced by force or a threat of force.

(i) Morality and Law

There are similarities and distinguishing features between morality and law. The similarities are:

- both law and morality presuppose the society; they cannot exist without the society,
- rights and obligations are common features of both law and morality,
- the concept of justice is central to both law and morality.

The differences between law and morality are:

- law is traceable to a definite date since every law comes into existence on a day; the existence of a moral norm cannot be traced to any date,
- morality aims primarily at making men virtuous; law aims primarily at peaceful coexistence.

(ii) Morality and Etiquette

Morality and Etiquette are similar in regulating human behaviour in the community of others, but Morality has a wider scope of operation than Etiquette. Etiquette is influenced by tastes and aesthetics.

(iii) Morality and Prudence

Prudence and Morality are concerned with the regulation of human behaviour. However, morality is concerned with human beings in the community of others, while prudence is concerned with the regulation of the private behaviours of individuals.

(c) Teleological vs De-ontological Ethical Theories

There are different theories of moral judgments. These different ethical theories of moral judgments can be classified under two headings. They are either Teleological or De-ontological. The Teleological theories are also referred to as Consequentialist theories while the De-ontological theories are Non-consequentialist theories. Teleological is from the idea of 'teleo' which means purpose. Teleological theories are called consequentialist because they base moral rightness or wrongness of an action on the consequences or effects that follow from the action. On the other hand, de-ontological is from De-ontology, a negation of the science of existence. This means that there is nothing that exists outside of an action that can be used to determine moral rightness and moral wrongness.

For the De-ontological theories, consequences or effects are things existing outside of an action and so, they cannot be used to determine the moral rightness or wrongness of an action. Therefore, the rightness or wrongness is determined by something that is intrinsic to the nature of an action and sometimes it can be determined by appeal to higher order rules.

Some examples of the teleological theories are; Ethical Utilitarianism, according to which an action is right if it promotes a greater balance of good over evil for the majority, Ethical Egoism, according to which an action is morally right if it promotes a greater balance of good over evil in respect of the moral agent. For de-ontological theories, there is the Divine Command Theory according to which moral rightness is based on agreement with what God Commands, and Kant's Categorical Imperative according to which an action is morally right if the moral agent or the actor can wish that the maxim of his action be universalized.

Practice Questions

- Answer True or False
 - ✓ A moral Philosopher is the same as a moralist
- Compare and contrast Ethical Teleologism and Ethical De-ontologism
- Explain the sociality of morality

- In one sentence
 - ✓ Compare and contrast morality and etiquette
 - Compare and contrast morality and prudence
 - Compare and contrast morality and law
 - What is Morality?
 - Compare and contrast Ethical utilitarianism and Ethical Egoism
 - State Kant's Categorical Imperative.

MODULE 5: Logic

Expected Duration

The topic is expected to take four weeks or eight contact hours

Expected Objectives

At the end of this topic, you are expected to be able to:

- explain the nature and importance of logic to critical and adequate reasoning;
- discuss the methods of logical and adequate reasoning;
- identify and explain how ordinary language sentences can easily lead us to fallacies of reasoning; and
- discuss some of the fallacies and how we can easily fall into them as well as how to avoid them.

What is Logic?

Logic is not just a science of reasoning; it is a science of clear and adequate reasoning. There is a difference between Logic which deals with the principles and techniques of adequate reasoning and psychology which deals with processes of thinking. Logic is either Informal or Formal. It is informal when it uses the ordinary language and formal when it uses symbolic statements. In strict, technical and professional sense, however, logic is that branch of philosophy that deals with the study of the basic principles, techniques or methods for evaluating arguments.

(i) *Informal Logic*

Traditional Laws of Reasoning

There are three main traditional laws of reasoning such as, The Law of Identity according to which a thing is identical to itself, The Law of Excluded Middle according to which a thing is what it is and not something else, and the Law of Non-Contradiction according to which a thing cannot be and not be at the same time. Each of these laws are obeyed by any human being from any part of the world if what he or she says is to be meaningful.

Types of Arguments

An argument is a combination of a set of propositions some of which are premises and one of which is a conclusion. The premises are the reasons while the conclusion is the claim which is being supported with reasons. An argument can be inductive if it moves from the particular premises to general conclusion, and it can be deductive if it moves from general premises to particular conclusion. A deductive argument is valid if the premises provide sufficient support for

the conclusion, otherwise it is invalid. A sound deductive argument combines validity and truth. Validity and soundness are not applicable to inductive arguments, we can only talk of strong, weak, or no support at all in respect of inductive arguments.

Examples of Deductively Valid Argument

➤ All metals when heated expand

Object A is a metal

Object A is heated

.: Object A expands

➤ All humans are mortal

Socrates is a human

.: Socrates is mortal

The examples above are valid arguments because it is not possible to accept the premises and reject the conclusion. They are both valid and sound because the premises are sufficient to guarantee the conclusions and the premises and the conclusions are all true.

Example of Deductively Invalid Argument

➤ All humans are mortal

Socrates is mortal

.: Socrates is human

This is invalid because it is not all that is mortal that is human. Fowls are mortal and they are not human.

Example of Inductive Argument

➤ Metal A was heated and it expanded,

Metal B was heated and it expanded,

Metal ... Z was heated and it expanded

.: All metals when heated will expand.

➤ Water specimen A was heated to 100°C and it boils.

Water specimen B was heated to 100°C and it boils.

Water specimen ... Z was heated to 100°C and it boils.

∴ Water boils at 100° C

Fallacies

A fallacy is a type of argument that may seem to be correct but which upon very close examination turns out not to be so. A fallacy is usually very persuasive and so appears very good and logical. There are two broad divisions of fallacy. They are 'Formal' and 'Informal' fallacies. Formal fallacies have to do with the violation of certain rules of valid inference, whereas informal fallacies are errors in reasoning that we may fall into either because of carelessness or inattention, or because we want to trick others into accepting our position based on convictions that are not relevant to the issue at hand. Informal fallacy, which is our main concern here, can be further classified into three broad categories. They are the fallacies of relevance, fallacies of ambiguity and fallacies of presumption.

Fallacies of Relevance

The following are examples of fallacies of relevance:

Appeal to Force (*argumentum ad baculum*)

This fallacy is committed when one appeals to force or the threat of force to cause the acceptance of a conclusion, instead of appealing to reason. It is also committed when someone in a position of power threatens to bring down unfortunate consequences upon anyone who dares to disagree with a proffered proposition. The following is an example of an argument that commits this fallacy:

'Nigeria should join the Non-Aligned Nations if she wants the Non-Aligned Nations to buy her oil.'

Appeal to Pity (*argumentum ad misericordiam*)

This fallacy occurs when in the course of arguing, one appeals to pity rather than reason. An appeal to pity tries to win acceptance by pointing out the unfortunate consequences that will otherwise fall upon the speaker and others, for whom they will then feel sorry. The following passage commits this fallacy:

I am a single parent, solely responsible for the financial support of my children. If you give me this traffic ticket, I will lose my license and be unable to drive to work. If I cannot work, my children and I will become homeless and may starve to death. Therefore, you should not give me this traffic ticket.

Appeal to Emotion (*argumentum ad populum*)

This fallacy is committed when you appeal to the emotion of the people to win their assent to a conclusion unsupported by good evidence. In a more general fashion, the appeal to emotion relies upon emotively charged language to arouse strong feelings that may lead an audience to accept its conclusion. The problem here is that although the flowery language of the premise might arouse strong feelings in many members of its intended audience, the widespread occurrence of those feelings has nothing to do with the truth of the conclusion. The following example explains this fallacy:

The wisest men and women in Yoruba history have all been interested in Ifa. Obas, queens and regents of all epochs in Yoruba land have believed in it and

have guided the affairs of their people by it. Therefore those who say that Ifa is not a science are mistaken.

Appeal to Authority (*argumentum ad verecundiam*)

This fallacy involves the mistaken supposition that there is some connection between the truth of a proposition and some feature of the person who asserts or denies it. When the opinion of someone famous or accomplished in another area of expertise is appealed to in order to guarantee the truth of a claim outside the province of that authority's field, this fallacy is committed. Consider this example:

John Adeoye, a Professor of Philosophy at the University of Lagos, believes that the sum of the four angles of a rectangle is 135 degrees.

Therefore the sum of the four angles of a rectangle is 135 degrees.

Argument Against the Man (*argumentum ad Hominem*)

There are two varieties of this argument. The 'abusive' variety of ad hominem is committed when instead of trying to disprove the truth of what is asserted, one attacks the person who made the assertion. The circumstantial variant of this fallacy occurs when instead of arguing logically, one argues against the circumstance of the opponent. Consider the following two examples, the first committing the abusive variety and the second the circumstantial:

1. Mr. Brown's arguments for pre-marital sex should be dropped because he is a womanizer.
2. Rev. Father John should accept my position that abortion should be abolished because this is compatible with his faith as a Catholic.

Appeal to Ignorance (*argumentum ad ignorantiam*)

This fallacy is committed when one posits that a proposition is true simply on the basis that it has not been proved false or that it is false because it has not been proved true. The following passage commits this fallacy:

No one has conclusively proven that there is no intelligent life on the moons of Jupiter. Therefore, there is intelligent life on the moons of Jupiter.

Irrelevant Conclusion (*ignoratio elenchi*)

The fallacy of irrelevant conclusion tries to establish the truth of a proposition by offering an argument that actually provides support for an entirely different conclusion. Consider this example:

The Golden rule is basic to every system of ethics ever devised. Everyone accepts it in some form or other. Therefore people's lives are guided by legislations.

Black-or-White Fallacy

This fallacy is committed when it is falsely assumed in an argument that only two alternatives or positions are possible in regards to a certain issue or when the possibility of a third alternative to the two already allowed is ignored (Bello, 2000). Look at the example below

He who is not for Christianity is against Christianity.

Sodiq is not for Christianity.

He is therefore against Christianity.

Fallacies of Ambiguity

In addition to fallacies of relevance, there are several patterns of incorrect reasoning that arise from the imprecise use of language. An ambiguous word, phrase or sentence is one that has two or more distinct meanings. The following are examples of fallacies of ambiguity:

Fallacy of Equivocation

This fallacy is committed when you use a word in more than one sense in an argument. An equivocation trades upon the use of an ambiguous word or phrase in one of its meanings in one of the propositions of an argument and also in another of its meanings in a second proposition. For example:

Only man is rational

No woman is a man

Therefore, no woman is rational.

Here, the word 'man' is used in different senses in the two premises of the argument. So the link they seem to establish between the terms of the conclusion is spurious.

Fallacy of Division

This fallacy involves an inference from the attribution of some features of an entire class, to the possession of the same feature by each of its individual parts or members. Look at this example:

America is a rich and great country.

Peterson is an American.

Therefore Peterson is rich and great.

Fallacy of Composition

This fallacy involves an inference from the attribution of some features of every individual members of a class, to the possession of the same feature by the entire class. For example, to argue that since every course I took in college was well-organised, therefore my college education was well-organised, is to commit this fallacy.

Fallacy of Assent

The fallacy of assent is committed in an argument whose deceptive but invalid nature depends upon a change or shift in meaning. The way in which the meaning shifts in the fallacy of assent depends upon which parts of it may be emphasised or accented. Consider this example:

Peter turned in his assignment on time today

Therefore Peter usually turns in his assignments late.

Here, because certain words in the premise are emphasised or stressed, the argument acquires a different meaning and so becomes fallacious.

Fallacy of Amphiboly

This fallacy occurs in arguing from premises whose formulations are ambiguous because of their grammatical construction. A statement is amphibolous when its meaning is indeterminate because of the loose or awkward way in which its words are combined. This makes such statement true on one interpretation and false on another. When such a statement is stated as a premise on the interpretation that makes it true and a conclusion is drawn from it on the interpretation that makes it false, the argument becomes fallacious.

Fallacies of Presumption

Apart from the fallacies of relevance and those of ambiguity, there are some other incorrect patterns of reasoning which, for want of a better term, have been described as 'Fallacies of Presumption'. In these instances, the erroneous reasoning results from an implicit supposition of some further proposition whose truth is uncertain or implausible. The followings are examples of fallacies of presumption:

Fallacy of Accident

This fallacy begins with the statement of some principle that is true as a general rule, but then errs by applying this principle to a specific case that is unusual, atypical and whose accidental circumstances render the rule inapplicable.

Converse Accident

This fallacy occurs when one generalizes on the basis of insufficient evidence. Look at this example:

Dennis Rodman wears earrings and is an excellent rebounder.

Therefore, people who wear earrings are excellent rebounders.

The truth here is that a single instance is not enough to establish the truth of such a general principle.

False Cause

This fallacy is committed when you say something is the cause of another when in actual fact it is not. There are two strands of this fallacy:

- a. *Non causa pro causa*: This fallacy occurs when one mistakes what is not the cause of a given effect for its real cause.
- b. *Post hoc ergo propter hoc*: This fallacy occurs when we say that one event is the cause of another from the mere fact that the first event occurred earlier and immediately before the second.

The following argument commits both strands of false cause:

The moon was full on Thursday evening.

On Friday morning I overslept.

Therefore, the full moon caused me to oversleep.

Begging the Question (*Petitio Principii*)

Begging the question is the fallacy of using the conclusion of an argument as one of the premises offered in its own support. In other words, if one assumes as a premise for an argument the conclusion one intends to prove, then one commits this fallacy. Consider this example:

It is best to have government of the people, for the people and by the people because democracy is the best form of government.

Complex Question

A complex question is one which contains at least two questions, one of which is implied and in which an affirmative answer to the implied question is already presupposed irrespective of whether or not the main question is answered in the affirmative or in the negative. In other words, this fallacy is committed when one draws a conclusion from a yes or no answer to a question that is loaded. This fallacy occurs more frequently in dialogues. Consider the following:

1. Have you tried to stop watching too much television?

If so, then you admit that you do watch too much television.

If not, then you must still be watching too much television.

Therefore, you watch too much television.

2. Did your sales increase as a result of your misleading advertisement?

If yes, then you admit that your advertisement was misleading.

If no, then you admit that you still practice misleading advertisement.

Therefore, you practice misleading advertisement and could go to jail because of your unethical conduct.

In concluding our discussion on informal fallacies, we need to state that all the eighteen varieties treated above can seriously interfere with our ability to arrive at the truth. Whether they are committed inadvertently in the course of an individual's own thinking or deliberately employed in an effort to manipulate others, each tends not to provide legitimate grounds for the truth of its conclusion. But knowing what the fallacies are affords us some protection in either case. Since we have now identified several of the most common patterns of incorrect reasoning, we are less likely to slip into them ourselves or be fooled by anyone else.

(ii) **Formal Logic**

Propositional Variables

Propositional variables are some letters of the English alphabets which begin from letter P. Logicians use propositional variables such as P,Q,R,S,T,U,V...Z when they are moving from ordinary language to Symbolic language. They are usually provided as schemes of abbreviation. For example, let 'P' represent 'it rains', and let 'Q' represents 'it is wet'

Logical Connectives and their Logical Meanings

When changing from ordinary language to symbolic language, some logical connectives are to be used to replace the ordinary English language connectives. These connectives are, Conjunction ' \wedge ', which replaces 'and', Disjunction ' \vee ', which replaces 'either-or', Conditional ' \rightarrow ', which replaces 'if...then', Bi-conditional ' \leftrightarrow ', which replaces 'if and only if', and Negation ' \sim ', which means it is not the case. A conjunction $P \wedge Q$ is true when both components P and Q are true otherwise false, a disjunction $P \vee Q$ is true when at least one component is true otherwise false, a conditional statement $P \rightarrow Q$ is false when the antecedent P is true and the consequent Q is false otherwise true, a bi-conditional statement $P \leftrightarrow Q$ is true when both components have the same truth value otherwise false, and the negation of a true statement is false while the negation of a false statement is true.

Changing Ordinary Sentences to Symbolic Sentences

To change an ordinary English sentence to a symbolic sentence we need the combination of the schemes of abbreviation in form of Propositional variables and the logical connectives. For example if P represents 'it rains', and Q represents 'it is wet', then, $P \rightarrow Q$ means 'if it rains, then it is wet', $P \wedge Q$ means 'it rains and it is wet', $P \vee Q$ means 'either it rains or it is wet', $P \leftrightarrow Q$ means 'it rains if and only if it is wet', and $\sim P$ means 'it is not the case that it rains'.

Rules of Inference and Formal Proof of Validity

Some rules of logic are used for inferences and formal proof of validity. For example, there is Modus Ponens according to which if you have $P \rightarrow Q$, and P, you can infer Q, Modus Tollens according to which if you have $P \rightarrow Q$, and $\sim Q$, you can infer $\sim P$, and Double Negation according to which if you have $\sim \sim P$ you can infer P. Put differently, Modus Ponens says

$P \rightarrow Q$

P

$\therefore Q$

Modus Tollens says

$P \rightarrow Q$

$\sim Q$

$\therefore \sim P$

Double Negation $\sim \sim P$

$\therefore P$

- **Truth-Table**

- **Construction of a Truth-Table**

In constructing a Truth-Table, the rule is that the number of lines to be generated should be 2 raised to the power of the number of the propositional variables. For example, PVQ will be 2 raised to power 2 which gives four lines, e.g

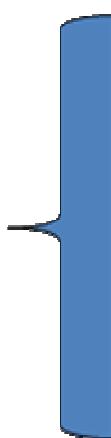
To construct a truth-table for PVQ, we shall go thus:

(i) For $P \vee Q$,



P	Q	$P \vee Q$
T	T	T
T	F	T
F	T	T
F	F	F

(ii) For $(P \vee Q) \rightarrow R$ we have



P	Q	R	$P \vee Q$	$(P \vee Q) \rightarrow R$
T	T	T	T	T
T	T	F	T	F
T	F	T	T	T
T	F	F	T	F
F	T	T	T	T
F	T	T	T	F
F	F	T	F	T
F	F	F	F	T

We arrived at this Truth-table by using this rule to generate the number of lines and we use the logical meanings of the connectives to determine the truth or falsity of the logical statements. This can be applied to all and any logical statement.

Use of the Truth-Table for the Determination of Equivalence

The Truth-Table can be used to determine whether two logical propositions are equivalent. Two symbolic statements or propositions are equivalent if on the same lines on the truth-table they both have the same truth-values all through. Truth-value refers to the truth or falsity of statements. E.g to determine the equivalence of (i) $P \leftrightarrow Q$ and (ii) $(P \rightarrow Q) \square (Q \rightarrow P)$, we can proceed this way;

P	Q	$P \leftrightarrow Q$	$(P \rightarrow Q) \square (Q \rightarrow P)$
T	T	T	T
T	F	F	F
F	T	F	F
F	F	T	T

As we can see, these two statements are equivalent because on each of the lines on the table, the two statements have the same truth-value. That is, where one is true and where one is false the other is also false.

Use of the Truth-Table for the determination of Validity

An argument is valid if on the truth-table there is no instance when the premises are true and the conclusion is false. If there is any one line on the truth-table when the premises are true and the conclusion is false the argument is invalid. To determine the validity of a symbolic argument we can proceed this way:

$$(i) \sim P \rightarrow Q$$

$$\sim Q$$

$$\therefore P$$

P	Q	$\sim P$	$\sim P \rightarrow Q$	$\sim Q$	P
T	T	F	T	F	T
T	F	F	T	T	T
F	T	T	T	F	F
F	F	T	F	T	F

This argument is valid because there is no line on which the premises are both True and the conclusion is false.

$$(ii) (P \square Q) \square \sim (P \square Q)$$

$$P \square \sim Q \rightarrow R$$

$$\sim P \square Q \rightarrow R$$

$$\therefore P$$

P	Q	R	$(P \wedge Q) \wedge \neg(P \wedge Q)$	$(P \wedge \neg Q) \rightarrow R$	$(\neg P \wedge Q) \rightarrow R$	P
T	T	T	F	T	T	T
T	T	F	F	T	T	T
T	F	T	T	T	T	T
T	F	F	T	F	T	T
F	T	T	T	T	T	F
F	T	F	T	T	F	F
F	F	T	F	T	T	F
F	F	F	F	T	F	F

This argument is invalid because on line 5, the three premises are true and the conclusion is false.

ALTERNATIVELY

Formal Arguments in Artificial Language

Here, we shall concern ourselves with an aspect of propositional logic. Propositional logic deals mainly with the ways in which simple statements are combined to form compound statements, as well as the validity and invalidity of arguments that can be constructed using such statements. A statement is simple if it has no other statement as part of its component. For example, the statement 'It is raining' is a simple statement. On the other hand, a compound statement combines two or more other statements. An example of a compound statement is 'It is raining and the ground is wet.' We shall be looking specifically at the nature of words and phrases that we use in forming compound statements. These words and phrases are called 'logical connectives' and there are five of such connectives.

Conjunction

A conjunction consists of two propositions joined together by words like 'and', 'but', 'though' and their equivalents. The two parts of a conjunction are called conjuncts. The logical symbol that represents all forms of conjunctions is the dot(\bullet) sign. The expression 'Peter is in Lagos and John is in Kaduna' is a conjunction. Now, if we represent the statements 'Peter is in Lagos' and 'John is in Kaduna' as 'P' and 'J', then the conclusion of both statements will be symbolised as ' $P \bullet J$ '. The conditions under which expressions involving a conjunction can be true or false can be expressed using the following table:

$P \bullet T$

T T T

T F F

F F T

F F F

The above table reveals that a conjunction is true only when both conjuncts are true, and false when at least one of the conjuncts is false.

Disjunction

A disjunction is a compound proposition in which two statements are joined by the logical connective 'or' or its equivalent. The two parts of a disjunction are called disjuncts and the logical symbol that represents the disjunction is the wedge (\vee). The expression 'Peter is in Lagos or John is in Kaduna' is a disjunction and is symbolised as ' $P \vee J$ '. The truth conditions for a disjunction can be expressed as follows:

$P \vee J$

T T T

T T F

F T T

F F F

From the above, a disjunction is true when at least one of the disjuncts is true. A disjunction is false when both disjuncts are false.

Conditional

A conditional consists of two propositions joined by the connective 'If... then ...' or their equivalents. The statement on the left hand side of the conditional, that is, the statement between the 'If' and the 'then' is called the 'antecedent'. The statement on the right hand side of the conditional, that is, the statement following the 'then' is called the 'consequent'. The logical symbol that represents the conditional is the 'horse shoe' sign (\supset). The expression 'If Peter is in Lagos then John is in Kaduna' is a conditional statement and is symbolised as ' $P \supset J$ '. The truth-conditions of a conditional are as represented in the following table:

$P \supset J$

T T T

T F F

F T T

F T F

The above table reveals that a conditional statement is only false when the antecedent is true and the consequent is false.

Bi-conditional

When two propositions are joined by the connective 'if and only if', then the expression is called a bi-conditional. The two parts of a bi-conditional are called 'components' and the logical sign that represents the bi-conditional is the triple bar (\equiv). The expression 'Peter is in Lagos if and only if John is in Kaduna' is a bi-conditional statement and is symbolised as ' $P \equiv J$ '. The

conditions under which expressions involving a bi-conditional can be true or false are shown below:

$$P \equiv J$$

$$\begin{array}{ccc} T & T & T \end{array}$$

$$\begin{array}{ccc} T & F & F \end{array}$$

$$\begin{array}{ccc} F & F & T \end{array}$$

$$\begin{array}{ccc} F & T & F \end{array}$$

The above table reveals that a bi-conditional statement is true when either both components are true or when both components are false. A bi-conditional statement is false if both components have different truth-values.

Negation

If someone says 'It is raining' and another person says 'It is not raining', the second person has negated what the first person said. A negation is a sentence which contains the word 'not' or its equivalent. Ordinarily, a negation looks like a simple statement but logically, it has a compound structure. The logical sign that represents the negation is the curl sign (\sim). When a statement is negated, the negation sign is placed immediately before the statement being negated. 'John is not in Kaduna' is an example of a negation and is symbolized as ' $\sim J$ '. When a statement is negated, it takes on the opposite value. In other words, when a statement, for example, 'P' is true, then ' $\sim P$ ' will be false and when ' $\sim P$ ' is true, then 'P' will be false. This is displayed in the table below:

$$P \quad \sim P$$

$$\begin{array}{cc} T & F \end{array}$$

$$\begin{array}{cc} F & T \end{array}$$

Practice Questions

- Logic is
 - a) the science of thinking
 - b) concerned with the process of rational thinking
 - c) Concerned with the procedure of rational thinking
- Compare and contrast Formal and Informal Logic
- Mention three traditional laws of reasoning
- What is an argument?
- State one difference and one similarity between Inductive and Deductive arguments
- State the logical meanings of the logical connectives
- Prove the validity or invalidity of the arguments
 - . $P \rightarrow Q, Q \therefore P$
 - . $P \rightarrow Q, \sim Q \therefore \sim P$
 - . $P \rightarrow Q, \sim P \therefore \sim Q$
- Construct the truth tables for these:
 - . $(P \vee Q) \rightarrow (P \vee Q)$
 - . $((P \vee \sim Q) \vee \sim R) \wedge (Q \leftrightarrow P)$

SUGGESTED MATERIALS

- Ayer A. J. *The Problem of Knowledge* (New York: Penguin, 1986)
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- Onigbinde A. *What Is Philosophy?* (Ibadan: Frontline Books, 2009)
- Plato, *Five Dialogues: Euthyphro, Apology, Crito, Meno, Phaedo*, Grube G.M.A. (Trans.) (Indianapolis: Hackett Publishing Company, 1981)
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Glossary

- Materialism - a metaphysical view that the universe is ultimately made of matter
- Idealism - a metaphysical view that the universe is ultimately made of ideas or non-matter
- Socrates - the father of modern philosophy
- A priori - knowing with the use of pure reason
- A posteriori - knowing with the use of sense experience
- JTB - knowledge as Justified True Belief
- Idea - non-matter.

FORMATIVE ASSESSMENT

MODULE 1: The Nature and Subject Matter of Philosophy

1. Explain the idea that:
 - Philosophy is the search for wisdom
 - Philosophy is a no-man's land between science and technology
 - Philosophy is a gadfly
2. Explain the difference between Philosophy and:
 - Science
 - Technology
3. Explain the similarity between Philosophy and:
 - Science
 - Technology
4. What is the similarity between the Socratic conception of Philosophy and Philosophy as contemplation?
5. What are the major branches of Philosophy?

MODULE 2: Epistemology

1. What is the concern of Epistemology?
2. Explain knowledge as Justified-True-Belief, distinguishing between when it is inferential and when it is non-inferential.
3. Explain the different types of knowledge.
4. Explain the following theories of truth:
 - Correspondence Theory
 - Coherence Theory
 - Pragmatist Theory

MODULE 3: Metaphysics

1. What are the questions that are the concerns of metaphysics?
2. What is central to all metaphysics enquiries?
3. Explain:
 - Idealism
 - Materialism
4. Distinguish between:
 - Universals and Particulars

- Substances and Qualities

MODULE 4: Ethics

1. What are the traditional branches of Ethics?
2. Define each of the traditional branches of Ethics
3. Explain Morality as:
 - A set of Principles
 - Conventional
 - Social
4. Explain the similarities between:
 - Morality and Law
 - Morality and Etiquette
 - Morality and Prudence
5. Explain two examples of the Teleological Theory.
6. Explain two examples of De-Ontological Theory

MODULE 5: Logic

1. Distinguish between Formal and Informal Logic
2. Distinguish between Inductive and Deductive Arguments
3. Explain Fallacy and list its three broad categorizations
4. State the rule for constructing a Truth-Table