BAYERO UNIVERSITY, KANO
FIRST SEMSTER, 20/21 SESSION
GSP 2205- Philosophy and Logic

Module 6 : Logic as a Principle of Reasoning; Inductive, Deductive and Abductive Methods of Reasoning

A. Introduction to Logic

1. Logic is a subdivision or branch of philosophy.

2. Logic is the study of the criteria used for the evaluation of arguments.

3. Logic is the study of reasoning.

4. Logic allows one to produce new information from old one.

5. That is why logic pertains to many field of studies, such as Security, Law, Politics, Literature, Sciences, etc

B. Logical Reasoning

1. Reasoning is the generation or evaluation of claims in relation to their supporting arguments and evidence.

2. Difference between logic and reasoning: Logic is the systematic study of the form of arguments, while Reason is the application of logic to understand and judge.

Three Methods of Reasoning

1. Deductive Reasoning

2. Inductive Reasoning

3. Abductive Reasoning

Deductive Reasoning

- **Deductive Reasoning :** Starts out with a general statement, or hypothesis, and examines the possibilities to reach a specific, logical conclusion.

- **Deductive Reasoning :** Works from the more general to the more specific.

- Examples of **Deductive Reasoning** are as follows:

1. All men are mortal. Joe is a man. Therefore, Joe is mortal.

2. To get a Bachelor's degree at Bayero University Kano, a student must have 120 credits. Musa has more than 130 credits.

Inductive Reasoning

- **Inductive Reasoning** is a method of reasoning in which a body of observations is synthesized to come up with a general principle.

- **Inductive Reasoning** starts with the specifics and then draws the general conclusion based on the specific facts.

- Examples of **Inductive Reasoning** are as follows:

1. In the summer, there are ducks in our pond. Therefore, summer will bring ducks to our pond.

2. I have seen four students at this school leave trash on the floor. The students in this school are disrespectful.

Abductive Reasoning

- **Abductive Reasoning** is making a probable conclusion from what you know.

- A medical diagnosis is an application of abductive reasoning.

- Example of **Abductive Reasoning** : If you see an abandoned bowl of hot soup on the table, you can use abduction to conclude the owner of the soup is likely returning soon.

- *Thank You For Listening*