

**SYMBOLIC LOGIC  
FOR**

**BA- III (PHILOSOPHY HONS)**

**BY**

**PROF. RAJEEV KUMAR  
LANGAT SINGH COLLEGE, MUZAFFARPUR**

# AN INTRODUCTION TO LOGIC

## WHAT IS LOGIC

LOGIC IS FREQUENTLY BEEN DEFINED AS THE ‘ SCIENCE OF REASONING’.

## WHAT IS REASONING?

- REASONING IS THAT SPECIAL KIND OF THINKING CALLED ‘INFERRING’ ,IN WHICH CONCLUSIONS ARE DRAWN FROM THE PREMISES.

## **WHAT IS INFERENCE?**

INFERRING IS AN ACTIVITY IN WHICH ONE PROPOSITION IS AFFIRMED ON THE BASIS OF ONE OR MORE OTHER PROPOSITIONS E.G :-

- IF THERE IS SUN THERE IS LIGHT,
- THERE IS SUN
- THEREFORE, THERE IS LIGHT
- 

## **WHAT IS PROPOSITION?**

**PROPOSITION IS A FACT EXPRESSED IN LANGUAGE.**

- GRAMMARIAN CLASSIFY THE LINGUISTIC FORMULATIONS IN FOUR TYPES OF SENTENCES :-
- 1.DECLARATIVE SENTENCES – ASSERTION
- 2.IMPERATIVE SENTENCES – COMMAND
- 3.INTERROGATIVE SENTENCES – QUESTION
- 4.EXCLAMATORY SENTENCES - EXCLAMATION

- OUT OF FOUR, ONLY DECLARATIVE SENTENCES ARE CALLED PROPOSITIONS OR STATEMENTS.
- PROPOSITIONS ARE EITHER TRUE OR FALSE AND IN THIS WAY THEY DIFFER FROM QUESTIONS , COMMANDS AND EXCLAMATIONS.
- PROPOSITION DENOTES STATEMENT, STATEMENT DENOTES FACT AND FACT I.E. STATE OF AFFAIR.
- PROPOSITIONS-> STATEMENTS -> FACTS -> STATE OF AFFAIRS

- ***WHAT IS ARGUMENT?***
- AN ARGUMENT MAY BE DEFINED AS ANY GROUP OF PROPOSITIONS OR STATEMENTS, OF WHICH ONE IS CLAIMED TO FOLLOW FROM THE OTHERS. IT HAS A STRUCTURE WHICH INCLUDES PREMISE AND CONCLUSION. E.G. :-

RAM IS EITHER INTELLIGENT OR LABORIOUS – PREMISE 1

RAM IS NOT INTELLIGENT – PREMISE 2

THEREFORE, RAM IS LABORIOUS - CONCLUSION

# PROPOSITION VS ARGUMENT

- PROPOSITION MAY EITHER TRUE OR FALSE
- PROPOSITIONS IS THE CONSTITUENT PART OF ARGUMENT
- PROPOSITION MAY EITHER IN FORM OF PREMISE OR IN FORM OF CONCLUSION .
- ARGUMENT MAY EITHER VALID OR INVALID
- ARGUMENT IS A SET OF PROPOSITIONS
- ARGUMENT CONSISTS OF BOTH PREMISE AND CONCLUSION .
- AN ARGUMENT MAY CONTAIN FALSE PROPOSITION AND STILL BE VALID

**REST PART OF THIS CHAPTER WILL CONTINUE IN THE  
SECOND LECTURE**

**THANK YOU**