3

INFERENCE

Introduction

Inference is the mental process of arriving at a conclusion from known propositions. This chapter deals with different types of inference, mediate, immediate and its subdivisions. This chapter enables the learner to derive new conclusion from known or given facts.

Values and attitudes

- To accept truth and develop reasoning ability
- To develop positive approach towards truth.

	Unit frame	Total period 22
Concepts/ Ideas	**Process/Activity with assessment**	**Learning outcome**
Definition of inference	*Strategy* • Discussion with the help of illustrated dialogue presented in text book/PPT or dialogues prepared by teacher. *Assessment* • Conceptual Understanding of definitions • Participation in discussion, activity log	Student will be able to ... Identify the meaning and definition of inference.
Difference between mediate and immediate inference	*Strategy* • Slide presentation - distinguishes between mediate inference and immediate inference *Assessment* • Chart on difference between mediate and immediate inference and comparison skill	Differentiates mediate and immediate inference
The opposition of proposition	*Strategy* • Group discussion based on four worksheets about categorical proposition. Keeping the same subject and predicate each group frame other three propositions and check its truth and falsity. *Assessment* • Participation, record of reflection and presentation in groups work and problem solving skill.	Infer the other three forms of given proposition
Square of opposition • Contradictories • Contraries • Sub-contraries • Sub-alternation	*Strategy* • Discussion with the aid of chart/slides of square of opposition. Students solve four activities related with contradictories, contraries, sub-contraries and sb-alternations given in text book/prepared by teacher. *Assessment* • Activity log, participation and problem solving skill	Contrast opposition of propositions

Concepts/ Ideas	Process/Activity with assessment	Learning outcome
Eduction/immediate inference	*Strategy* • Discussion based on PPT-different types of eduction. *Assessment* • Activity log and participation	Identify different types of eduction
• Conversion	*Strategy* • Problem solving *Assessment* • Activity log, chart • Participation in discussion, Problem solving skill	Convert proposition
• Obversion	*Strategy* • Problem solving *Assessment* • Activity log, chart, • Participation in discussion, Problem solving skill	Obvert proposition
• Obverted converse	*Strategy* • Work sheet- problem solving *Assessment* • Activity log, Participation, Problem solving skill	Find out obverted converse
• Contraposition	*Strategy* • Group work. Work sheet - problem solving *Assessment* • Activity log, Participation, Problem solving skill	Find out contraposition
• Inversion	*Strategy* • Group work: Work sheet - problem solving *Assessment* • Activity log, Participation, Problem solving skill	Find out inverse

Actvity 1

Concept: Definition of inference.

Suggested strategy: Discussion based on illustrated dialogue.

LO :

- Find out the conclusion of given proposition.
- Identify the meaning and definition of inference.

The teacher demonstrates the illustrated dialogue of Sherlock Holmes from the book 'the adventure of Sherlock Holmes' written by Aurther Conan Doyle, and ask, "what is more important -to see or to reason"?

Teacher input

The teacher can brief the context of dialogue.

- Mere seeing is not at all seeing
- One who merely sees is only a passive observer
- Seeing involves mental process
- To say, to see, is to be accompanied by reason

Alternative entry activity

Suppose a group of people, while on their morning walk by the sea shore, see some peculiar traces. Many would merely see it. But some would really reflect to identify the traces made by tortoise on their way to lay egg in the sea shore.

Teacher input

- Mere seeing is not at all seeing.
- Some people merely sees the traces.
- Those who know about the tortoise infer trace made by tortoise on their way to lay egg.

Assessment: Conceptual Understanding, reflections recorded, Activity log and skills like communication.

Items	No. of students			
	Excellent	**Good**	**Average**	**Below average**
Participation in discussion Understanding the concept Sharing of ideas Communication skill Prepared chart				

RESPOSITORY OF CE POSSIBILITIES

Sl. No.	Process Assessment	Portfolio Assessment	Unit Assessment
1	Discussion related to definition of inference	Activity log - conclusion to given arguments	
2	Discussion on mediate inference with immediate inference with the help of examples	Chart - mediate and immediate inference	
3	Group discussion related to the opposition of proposition	Activity log - relation of A, E, I & O proposition keeping the same subject and predicate	Find out Truth, Falsity and Doubtful nature of the opposition of propositions with help of materially valid examples.
4	Discussion with aid of chart - square of opposition	Activity log - chart square of opposition	
5	Discussion based on PPT - the concept of eduction/immediate	Work sheet - solution to problems in eduction	Completion of flow chart

inference

TE Question

Answer the following

The proposition "all cell phones are wireless devices" can be stated as

1. Some wireless devices are cell phones
2. Some cell phones are wireless devices
3. All non wireless devices are non cell phones
4. No wireless devices are non cell phones
5. Some non cell phones are not wireless devices
   A. Choose the best response from *a* to *d*.
   B. Prove its validity.
   a) 1, 2 and 4 are true
   b) 1, 3 and 4 are true
   c) 3, 4 and 5 are true
   d) 1, 3 and 5 are true

Answer:

A. d)   1, 3 and 5 are true

B. '1'   Some wireless devices are cell phones' is the conversion of given A proposition {P I S}

'3'. All non wireless devides are non cell phones'.

is the contraposition full of the given A proposition {$\bar{P}$ A $\bar{S}$}

'5'. Some non cell phones are not wirless devices' is the partial inverse of the given A proposition {$\bar{S}$ O $\bar{P}$ }