

Class – XI
Lesson Plan

Topic: Mathematical and Logical Reasoning

Brief Description of the lesson:

Mathematical and logical reasoning are essential skills for success in many areas of life. By improving student's mathematical and logical reasoning skills, students can become a more effective problem solver, make better decisions, and think more deeply and creatively. Further it is a very important topic for competitive exams.

Objectives:

I - Specific Objectives:

Students will be able to:

S1 understand the importance of chapter for competitive exams (**Understand/Interpreting**)

S2 understand the meaning of term "odd man out" and solve the questions based on it.

(**Understand/Classifying**) (**Apply/Execute**)

S3 understand the meaning of term "syllogism" and solve the questions based on it.

(**Understand/Classifying**) (**Apply/Execute**)

S4 Understand the meaning of term "coding – decoding" and solve the questions based on it.

(**Understand/Classifying**) (**Apply/Execute**)

S5 Students will be able to identify the logical fallacies in an argument. (**Analysis**)

S6 Students will be able to evaluate the evidence for a claim and draw a reasonable conclusion. (**Analysis**)

II - Behavioral Objectives:

Through this chapter students will attain following behavioral objectives;

B1 Given a logical argument, students will be able to identify the assumptions, premises, and conclusion. (**Understanding**) (**Analysis**)

B2 Given a mathematical theorem, students will be able to prove it using deductive reasoning. (**Synthesis**)

Process / Activities:

ACT1 Game based on Coding – Decoding questions. (**Analysis**)

ACT2 Game based on finding the relationship between two persons with the help of a word problem, using family tree diagram. (**Application**)

Skills:

1) Decision making

2) Understanding

3) Analytical thinking

Assessment:

Assessment of activity will be done based on decided rubrics to check:

A1 The **analytical thinking** skill of student

A2 The **understanding** skill of student

Expected Learning Outcomes:

Students would be able to:

- 1) Solve questions based on “odd man out” (**Apply/Implementation**)
- 2) Solve questions based on “syllogism” (**Apply/Implementation**)
- 3) Solve questions based on “blood relations” (**Apply/Implementation**)
- 4) Solve questions based on “coding-decoding” (**Synthesis/Producing**)

Placements of Objectives, Instructional Activities and Assessment:

Topic/Start Date/Assessment					
Knowledge	Understanding	Application	Analysis	Synthesis	Evaluation
	S1	S2	S5	B2	
	S2	S3	S6		
	S3	S4	B1		
	S4	ACT2	ACT1		
	B1				

REVIEW OF THE LESSON PLAN

(To be done when the lesson gets over)

Problems Faced:

1. Few students had difficulty in solving questions related to blood and relations.

Success: about 98% of the students understand the topic better and have ability to express it properly.

Failure: about 02% of students not be able to solve a particular set of questions, requiring good practice in making relationship(tree) diagram.

Real Learning Outcomes: Students were able to understand all the topics. Few faced difficulties in problems related to blood and relations.

Students Response/Participation: Generally, students of this standard are good at logical and mathematical reasoning and students showed this by their active participation.

Teacher's Learning: While teaching this topic a lot of concentration as well energy is required. When students ask questions about mathematical and logical reasoning, it forces teachers to think about the material in a new way. This can help teachers to develop a deeper understanding of the material and to identify new ways to explain it to students. Teachers can anticipate common student misconceptions about mathematical and logical reasoning and develop teaching strategies to address them. For example, one common misconception is that mathematical reasoning is only about following rules and procedures. Teachers can help students to understand that mathematical reasoning is also about thinking creatively and strategically to solve problems.

To be incorporated in term 2: