

Class – X (2020-21)

Lesson Plan

Topic: PAIR OF LINEAR EQUATIONS

Brief Description of the lesson: In this chapter students will be taught about the pair of linear equations in two variables their solvability and applications in real life situation.

UN Sustainable Goals to be achieved (if any): Quality Education

Objectives: (put Bloom's level)

I - Specific Objectives

Students will be able to

1. Generate linear equation from word problem. (E)
2. Verify that given system of linear equation is consistent or inconsistent. (K)
3. Understand the concept of pair of linear equations and it's reducible form (simultaneous equations) (U)
4. Form equations and solve them graphically and algebraically. (An)
5. Plot the lines representing the linear equations of given system on same plane. (A)

II - Behavioral Objectives

Through this chapter students will attain following behavioral objectives through solving variety of problems.

1. If two unknown quantities are to be evaluated then we necessarily need to have two conditions/ criteria related to them they can formulate the pair of equations in two variables and consequently solve them. for example situations based on Measurements, angles of polygon, Cost of articles, Profit loss, discount , speed distance, time and work, height and distance and financial budget.

Process / Activities

- **Activity (to introduce the lesson)**

Students will be asked to generate linear equations in two variables and verify the conditions for consistency from the given situations.

(Prestructural)

Example: Ram purchased 6 pens and 5note books for Rs 300, while Ramesh purchased 8 pens and 3 note books for Rs 300 generate the linear equation in two variables for the same.

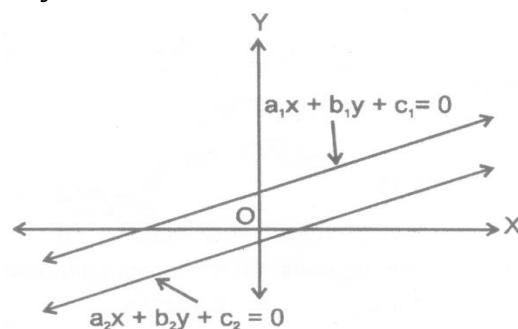
(Unistructural)

Activity (to support learning)

(Multistructural)

Problem given in the above activity to be plotted graphically then solution to be calculated graphically and algebraically.

- Skills (as per subject)
- Graphical representation
- Application
- Comparison



Expected Learning Outcomes:

Students would be able to

1. 1 generate linear equation from word problem. (E)
2. verify that given system of linear equation consistent or inconsistent (K)
3. Understand the concept of pair of linear equations and it's reducible form (simultaneous eqn.) (U)
4. Form equations and solve them graphically and algebraically. (An)
5. Plot the lines representing the linear equations of given system on same plane. (A)
6. Understand that If two unknown quantities are to be evaluated then we necessarily need to have two conditions/ criteria related to them they can formulate the pair of equations in two variables and consequently solve them. for example situations based on Measurements, angles of polygon, Cost of articles, Profit loss, discount , speed distance, time and work, height and distance and financial budget.

Assessment:

1. Write the conditions for consistency and inconsistency for standard linear equation.
2. Site examples for the condition for consistency and inconsistency from day today.
3. To generate problem for, Determining two numbers when the relation between them is given,/Problems regarding fractions, digits of a number ages of persons, regarding time & distance. Represent them graphically and solve them algebraically
4. Students of a class are made to stand in rows. If one student is extra in a row, there would be 2 rows less. If one student is less in row, there would be 3 rows more. Find the total number of students in the class.

SOLO:

Prestructural: Students have knowledge of various terminologies like terms, coefficients, linear equation

Unistructural: Students will be able to understand the concept of linear equation in two variables and were able to frame linear equation out of word problem

Multistructural: Students will be able to find values of unknown variables either graphically or algebraically (substitution method, elimination method or cross multiplication method)

Relational: With the help of this topic students will be able to find speed of bus, train, boat, cost of any commodity etc.

Extended Abstract: Student will use the concept of consistency and inconsistency in further chapters where they need to find value of unknown variables.