

DELHI PUBLIC SCHOOL GHAZIABAD
CLASS – XII
LESSON PLAN
CHAPTER-3: MATRICES

Unit	<u>Matrices</u>
Class Transaction	Total: 10 periods (approx. 50 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of linear equations..
Assessment of qualifying knowledge	1. Written test 2. HW notebook
Objective	Students would be able to identify types of matrices, do addition of two matrices and also multiplication
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. Order of a matrix. 2. Types of matrices. 3. Addition of matrices. 4. Multiplication of matrices. 5. Transpose of a matrix, symmetric and skew-symmetric matrix 6. Invertible matrices. <u>SKILLS AND KEY COMPETENCIES</u>- <i>Students would be able to</i> 1. Write the order of matrices (Critical thinking). 2. Add and multiply the matrices (Collaboration and Communication). 3. Find the inverse of a matrix by elementary transformation (Problem Solving).
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- <i>Brainstorming</i>-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. <i>Introduction of the topic</i>- ppt and Digital Content would be shared <i>Guided practice followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.

	Techniques to be used: Daily Practice Problem MCQ Peer Assessment HOTS Any Other
Resources	Text Book: NCERT text book for Mathematics Reference Book 1. CBSE Exemplar 2. DPSG Spiral 3. Previous year questions
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks as mentioned in the monthly planner. It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Assessments	3 UNIT TESTS Marks each MID TERM EXAMINATION 100 Marks HALF YEARLY EXAMINATION 100 Marks PRE BOARD EXAMINATION 100 Marks
Addressing Classroom Diversity	Due to various social backgrounds and multiple intelligences, the classroom might be a diverse arena. The following techniques can be used for various groups: <i>For gifted students:</i> • Spiral Level 3 questions to be done • Encouragement for referring other resources <i>For weak students:</i> • Spiral Level 1 to be completed • Peer help to be provided • Provide grade-up classes(PCC) <i>For differently abled students:</i> • Ignore spelling mistakes and formulae, if not written • Call parents at regular intervals • Provide grade-up classes • Encourage and motivate them at every level.

Marks	The weightage would be given by CBSE.

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CHAPTER-3: MATRICES
(Based on DOL)

Anticipatory Set: Facilitator introduces the topic Matrix

Objective:

- Given questions based on the topic learners will be able form matrices, types of matrices, add, subtract and multiply them, find the inverse of the matrices.
- To make students able to solve complex questions based on the topics to be discussed

Techniques to be used:

- Peer Assessment
- Quiz
- of ex.
- Case Study
- PPT

Materials required and Teaching Aids:

Smart Class Modules, blackboard, chalk, duster, NCERT book

Strategy

Student – teacher interaction, collaborative learning, independent practice

DAY 1

- The students will be shown a PPT and will be made aware of the matrices.
- The students will be told about the uses of the matrices in day to day life.
- The students would be given practice on simple questions based on formation of matrices, addition and subtraction of matrices.
- Ex.3.1, 3.2 would be undertaken.

GUIDED PRACTICE

The students will solve selected questions from NCERT book of ex. 3.1 and 3.2 in their notebook in the class with the help of their teacher. **(Problem Solving)**

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some questions will be asked based on the day's teaching and doubts will be cleared. **(Critical Thinking)**

INDEPENDENT PRACTICE – Students will do the leftover questions of ex. 3.1 and 3.2 in their Maths HW notebook.

DAY 2

- The students will be made to learn the condition when multiplication of matrices is defined and multiplication of matrices .
- compatibility of matrices for multiplication and multiplication would be practiced with examples.
- The ex.3.3 would be undertaken , questions from NCERT will be discussed along with the discussion of solved examples given.

GUIDED PRACTICE

The students will solve selected questions from NCERT book of ex. 3.3 in their notebook in the class with the help of their teacher. **(Problem Solving)**

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some questions will be asked based on the day's teaching and doubts will be cleared. **(Critical Thinking)**

INDEPENDENT PRACTICE – Students will do the leftover questions of ex. 3.3 in their Maths HW notebook

DAY 3

- The students will be explained the concept of Transpose of a matrix, concept of symmetric and skew symmetric matrices.
- The ex.3.3 would be undertaken , questions from NCERT will be discussed along with the discussion of solved examples given.

GUIDED PRACTICE

The students will solve selected questions from NCERT book of ex. 3.3 in their notebook in the class with the help of their teacher. **(Problem Solving)**

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some questions will be asked based on the day's teaching and doubts will be cleared. **(Critical Thinking)**

INDEPENDENT PRACTICE – Students will do the leftover questions of ex. 3.3 in their Maths HW notebook.

DAY 4

- The students will be explained the concept of Singular matrix, invertible matrices, elementary transformations.
- They will be told how to find the inverse of matrices of order 2×2 and 3×3 .
- The ex.3.4 would be undertaken, questions from NCERT will be discussed along with the discussion of solved examples given.

GUIDED PRACTICE

The students will solve selected questions from NCERT book of ex. 3.4 in their notebook in the class with the help of their teacher. **(Problem Solving)**

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some conceptual questions will be asked based on the day's teaching and doubts will be cleared. **(Critical Thinking)**

INDEPENDENT PRACTICE – Students will do the leftover questions of ex. 3.4 in their Maths HW notebook.

DAY 5

- The students will be explained the application of matrices.
- They will be solved misc. exc.
- The misc. exc. would be undertaken, questions from NCERT will be discussed along with the discussion of solved examples given.

GUIDED PRACTICE

The students will solve selected questions from NCERT book of misc. ex. in their notebook in the class with the help of their teacher. **(Problem Solving)**

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some conceptual questions will be asked based on the day's teaching and doubts will be cleared.

(Critical Thinking)

INDEPENDENT PRACTICE – Students will do the leftover questions of misc. ex. in their Maths HW notebook.

DAY 6

Problems of the exemplar, spiral and questions from previous years' board papers will be discussed with the students in the class.

Students will solve the problems in class and remaining questions they would do as home work.

CLOSURE

- Summarizing the lesson by mind mapping.
- Class test based on the lesson will be given.