

DELHI PUBLIC SCHOOL GHAZIABAD
CLASS – XII
LESSON PLAN
CHAPTER-2: INVERSE TRIGONOMETRIC FUNCTIONS

Unit	Inverse Trigonometric Function
Class Transaction	Total: 10 periods (approx. 50 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of bijective functions. 2. Knowledge of invertible functions.
Assessment of qualifying knowledge	1. Written test 2. HW notebook
Objective	Students would be able to write the principal value branch,
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. Principal value branch. 2. Properties of inverse trigonometric functions. 3. Difference between injective and surjective functions 4. Finding inverse of a function 5. Understanding Binary operation <u>SKILLS AND KEY COMPETENCIES</u>- <i>Students would be able to</i> 1. Solve the equations (Problem Solving). 2. Write the inverse function in the simplest form (Critical thinking).. 3. Find the principal value of inverse trigonometric functions (Collaboration).
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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(BASED ON D.O.L.)

Objective:

- To provide students mathematical knowledge Basic Concepts, Properties of Inverse Trigonometric Functions.
- To make students able to solve complex questions based on the topics to be discussed

Techniques to be used:

- Peer Assessment
- Quiz
- Group discussion.
- Case Study
- PPT

Materials required and Teaching Aids:

Smart Class Modules, blackboard, chalk, duster, NCERT, Exemplar and spiral 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 Invertibility of the function.
- The students will be told about the uses of the Inverse of the functions in day to day life.
- The students will be told about the Inverse of the trigonometric functions does not exist because these are not injective.
- For bijectivity, trigonometric functions split in Branches.
- The students will be told about the Principal value Branches of Inverse of the trigonometric functions in detail.
- The students will be told about the graphs of trigonometric and Inverse trigonometric functions and detail description of principal value branches by using their graphs.

GUIDED PRACTICE

The students will solve selected questions from NCERT book of ex. 2.1 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. 2.1 in their Maths HW notebook.

DAY 2

- The students will be made to learn the properties.
- The students will be made to learn the inverse domain properties in principal value branches with proof and analyse them.
- The students will be made to learn the complement angle, addition, subtraction of two inverse trigonometric functions and their properties in principal value branches with proof and analyse them.
- Some selected Questions in ex.2.2 in NCERT text book in class.

GUIDED PRACTICE

The students will solve selected questions from NCERT book of ex. 2.2 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. 2.2 in their Maths HW notebook

DAY 3

- The students will be explained the use of pythagorus in domain of the inverse trigonometric functions.
- Conversion of one form of Inverse Trig. Fn. to other Forms
- The students will be explained the use of All above concepts in higher order thinking problems.
- The Miscellaneous ex. 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 Miscellaneous ex. 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 Miscellaneous ex. in their Maths HW notebook.

DAY 4

- The students will be explained the HOT concept to solve the problems of exemplar .
- The students will be explained some selected problems of exemplar in the class.
- The students will be explained some selected problems of spiral in the class
- The students will be told to complete the class assignment of spiral and teacher assess them individually.

GUIDED PRACTICE

The students will solve selected questions from exemplar and spiral book 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 exemplar and spiral in their Maths HW notebook.