

Class – XII Lesson Plan 1

Topic: Inverse Trigonometric Functions

Brief Description of the lesson:

After studying this lesson, students will be able to:
define inverse trigonometric functions, state the condition for the inverse of trigonometric functions to exist, define the principal value of inverse trigonometric functions, find domain and range of inverse trigonometric functions, state the properties of inverse trigonometric functions, and simplify expressions involving inverse trigonometric functions.

Objectives:

I - Specific Objectives:

To enable the students to:

- S1 Basic concept of trigonometric functions along with graph for existence of bijective functions (**Knowledge/Recalling**)
- S2 Restriction on domain and range (Principal Value Branch) (**Understand/Classifying**)
- S3 Inverse of all trigonometric functions and its properties (**Understand/Interpret**)
- S4 Solution of problem based on substitution by a trigonometric function (**Synthesis/Producing**)

II - Behavioural Objectives:

By understanding and solving variety of problems, students will attain following behavioural objectives:

- 1) B1 To develop specific problem-solving approach required in the topic (**Synthesis/Producing**)
- 2) B2 Develop the practical problem-solving skills by learning and applying different graphical representations. (**Apply/Implementation**)

Process / Activities:

- 1) ACT1 Students will plot the graph of inverse trigonometric function using trigonometric function and line $y=x$. (**Understand/Classifying**)

Skills:

- 1) Analysis
- 2) Problem solving
- 3) Application

Assessment:

Assessment of activity will be done based on decided rubrics:

A1 Assessment of activity will be done based on the following questions

- (a) Plot the graph of $y = \sin^{-1} x$
- (b) Plot the graph of $y = \cos^{-1} x$

Expected Learning Outcomes:

The students would be able to efficiently deal with:

- 1) Domain and range (Principal Value Branch) of Inverse trigonometric function

(Knowledge/Recalling)

2) Inverse of all trigonometric functions and its properties **(Understand/Classifying)**

3) Solution of problem based on substitution by a trigonometric function

(Understand/Interpret)

4) Critical thinking

Placements of Objectives, Instructional Activities and Assessment:

Topic/Start Date/Assessment					
Knowledge	Understanding	Application	Analysis	Synthesis	Evaluation
S1	S2			S4	
	S3	B2		B1	
	ACT1			A1	