

LESSON PLAN (CONSOLIDATED)

SUBJECT: MATHEMATICS

GRADE: XII

Chapter Number and Title of Chapter	Ch-1/Relations And Functions
No. of Periods	Total: 3 periods (approx. 40 min each)
Learning Objectives	Given the content (chapter) the learners will be able to • Identify one to one ,onto and invertible function • Define the types of relation • Do the composition of function and inverse of function
Teaching Aids / Resources	Videos (Teaching and Explanation) PPT Concept Map
Previous Knowledge/ Curiosity Questions	• What is a function? • What is a relation? • What are special function? • What is inverse function?
Announcement of topic	In this chapter students will study different types of relations and functions, composition of function , invertible function.
Teaching Methodology/ Strategy	Transaction would proceed in the following manner- Suggestive Methodologies: Brain Storming The class would start with a discussion on what the students have already learnt in class xi and what is it that they would learn now. Active learning- Explanation of content will be given by ppt Group learning- Students will learn to verify equivalence relation and one –one onto by activity Questioning- Recapitulation will be done by questioning. Guided practice followed by Independent Practice- NCERT questions to be discussed in the classroom.
Content Obligatory Vocabulary (Keywords)	Reflexive ,Symmetric , Transitive , Equivalence , One-One, Onto, Invertible ,pre-image ,unique-image

Learning Concepts/ Teaching Points	• Types Of Relation And Function, • Method To Find Inverse Of Function • Composition Of Function.
Hard Spots/ Focus Spots	• Show that f is invertible function also find the inverse • Define empty relation and universal relation
Experiential Content	Students will able to • Verify the equivalence relation through activity. • Verify the function is one –one and onto. Through activity which will be performed in teaching video.
Subject Enrichment Activities for Internal Assessment	• To verify that the relation r in the set l of all lines in a plane, defined by $r = \{(l, m) : l \perp m\}$ is symmetric but neither reflexive nor transitive. • To demonstrate a function which is not one-one but is onto
Recapitulation :	Recapitulation will be done by giving some question to • Define equivalence relation • One-one and onto of function • Find inverse of function

Assignment:	• Let R be the relation on the set N of natural numbers defined by nRm .then R is..... • Let N be the set of natural numbers and the function $f: N \rightarrow N$ be defined by $f(n)=2n+3 \forall n \in N$.then f is one -one or not? • Let A be a finite set .Then ,each injective from A into itself is not surjective,T/F • If $f:R \rightarrow R$ be the function defined by $f(x)=2x-3 \forall x \in R$.Write f^{-1} • Give an example of a map 1. Which is one-one but not onto 2. Which is neither one -one nor onto