

SUBJECT: MATHEMATICS
TOPIC: INTEGRALS

LESSON PLAN

Pre-Content/content Post-Content	Learning Outcome/Objectives	
	General	Specific
<u>PRE-CONTENT</u> Integration as an inverse process of differentiation <u>CONTENT</u> Integration using substitution method. Integration of trigonometric functions Integrals of the form $\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}},$ $\int \frac{px + q}{ax^2 + bx + c} dx, \int \frac{px + q}{\sqrt{ax^2 + bx + c}} dx,$ etc. Integration by partial fractions, integrals of the form $\int e^x (f(x) + f''(x)) dx$ <u>POST-CONTENT</u> Problem Solving	Students will be able to recognize the integration formula as anti-derivative evaluate the given by using suitable substitutions. perform the integration after Observing the given function and simplifying it by applying the trigonometric formula Identify and arrange the given functions into these special integrals form and apply the formulae. convert given function into simple functions and apply partial fraction method. calculate faster and will be able to solve problems based on it	Students will be able to recall differentiation formula and write the corresponding integration formula. examine the substitution relevant to the given situation. explore all the trigonometric formula to rewrite in the suitable form modify the given functions by squaring method etc and integrate. analyze the relevant method for functions given solve integration questions. acquire problem solving skills and will be able to solve various problems

Home Work /Assignment

- 1) NCERT Exercise questions (Questions from Ex .7.1 to 7.11 and misc. Ex from NCERT book)
- 2) Exemplar problem

MONTH: August
CLASS: XII

Teacher's Activity	Student's Activity	Teacher's Observation And Remedial
Teacher will explain the geometrical meaning of Integration and the result expresses A family curves explain how to make a suitable substitution to integrate a given function. explain how to reduce the given trigonometric functions to simple functions and apply integration formula help students to recall squaring method to group the given functions And express in formula form. enable students to identify the given function and choose the relevant method give application-based questions	Students will recall all the trigonometric formula to rewrite in the suitable form. Solve questions from Ex 7.1 and 7.2 solve questions from Ex 7.3 to 7.5 solve Questions from EX 7.6 to 7.9 relate the method to apply the same in further questions and solve questions from Ex7.10 to 7.11 solve Questions from. misc. Ex on chap. simplify and solve application-based problems	Teacher will write observation and remarks after the class

Teaching Aids: Smart board,

Methodology/Innovative Methods: Discussion, Recall, Explanation, Question-Answer method, problem solving

Interdisciplinary Links: Applied in Engineering, Physics.

Co-Ordinator

Vice-Principal

Principal