

Lesson Plan

Name of the Faculty : Narender Kumar
Discipline : Common for all classes
Semester : Second
Subject : Applied Mathematics-II
Paper Code : 170022
Lesson Plan Duration : 15 weeks (from January 2018 to April 2018)

Week	Theory	
	Lecture Day	Topic (including assignment/ test)
1 st	1 st	Definition and concept of function
	2 nd	Exercise of functions
	3 rd	Concept of limits (Lecture-1)
	4 th	Concept of limits (Lecture-2)
	5 th	Concept of limits (Lecture-3)
2 nd	1 st	Concept of limits (Lecture-4)
	2 nd	Differentiation of x^n , $\sin x$ by first principle.
	3 rd	Differentiation of $\cos x$, $\tan x$ by first principle.
	4 th	Differentiation of e^x by first principle.
	5 th	Differentiation of sum and difference of functions (Lecture-1)
3 rd	1 st	Differentiation of sum and difference of functions (Lecture-2)
	2 nd	Differentiation of product of functions (Lecture-1)
	3 rd	Differentiation of product of functions (Lecture-2)
	4 th	Differentiation of quotient of functions (Lecture-1)
	5 th	Differentiation of quotient of functions (Lecture-2)
4 th	1 st	Differentiation of quotient of functions (Lecture-3)
	2 nd	Differentiation of trigonometric functions (Lecture-1)
	3 rd	Differentiation of trigonometric functions (Lecture-2)
	4 th	Differentiation of trigonometric functions (Lecture-3)
	5 th	Class Work Checking
5 th	1 st	Differentiation of inverse trigonometric functions (Lecture-1)
	2 nd	Differentiation of inverse trigonometric functions (Lecture-2)
	3 rd	Differentiation of inverse trigonometric functions (Lecture-3)
	4 th	<ul style="list-style-type: none"> • Logarithmic differentiation (Lecture-1) • Assignment work on Differential Calculus
	5 th	Logarithmic differentiation (Lecture-2)
6 th	1 st	Formulas revision of Differential Calculus with examples
	2 nd	Successive Differentiation upto 2 nd order (Lecture-1)
	3 rd	Successive Differentiation upto 2 nd order (Lecture-2)
	4 th	Successive Differentiation upto 2 nd order (Lecture-3)
	5 th	Application of differential calculus in Rate Measures (Lecture-1)
7 th	1 st	Application of differential calculus in Rate Measures (Lecture-2)
	2 nd	Application of differential calculus in Rate Measures (Lecture-3)
	3 rd	Application of differential calculus in Maxima and Minima (Lecture-1)
	4 th	Application of differential calculus in Maxima and Minima (Lecture-2)
	5 th	Application of differential calculus in Maxima and Minima (Lecture-3)
8 th	1 st	Problem discussion of Unit 1 (Differential Calculus)
	2 nd	<ul style="list-style-type: none"> • Home Work Checking • Assignment Checking
	3 rd	Test-1
	4 th	Integration as inverse operation of differentiation with simple examples
	5 th	Indefinite Integral (Lecture-1)
9 th	1 st	Indefinite Integral (Lecture-2)
	2 nd	Indefinite Integral (Lecture-3)
	3 rd	Indefinite Integral (Lecture-4)
	4 th	Indefinite Integral (Lecture-5)
	5 th	Indefinite Integral (Lecture-6)

10 th	1 st	Indefinite Integral (Lecture-7)
	2 nd	<ul style="list-style-type: none"> • Class Work Checking • Assignment work on Integral Calculus
	3 rd	Definite Integrals (Lecture-1)
	4 th	Definite Integrals (Lecture-2)
	5 th	Definite Integrals (Lecture-3)
11 th	1 st	Definite Integrals (Lecture-4)
	2 nd	Evaluation of $\int_0^{\frac{\pi}{2}} \sin^n x \, dx \quad \text{and} \quad \int_0^{\frac{\pi}{2}} \cos^n x \, dx$
	3 rd	Evaluation of $\int_0^{\frac{\pi}{2}} \sin^m x \cos^n x \, dx$
	4 th	Formulas revision of Integral Calculus with examples
	5 th	Applications of integration for evaluation of area under a curve and axes (Lecture-1)
12 th	1 st	Applications of integration for evaluation of area under a curve and axes (Lecture-2)
	2 nd	Numerical integration by Trapezoidal Rule using pre-existing mathematical models (Lecture-1)
	3 rd	Numerical integration by Trapezoidal Rule using pre-existing mathematical models (Lecture-2)
	4 th	Numerical integration by Simpson's 1/3 rd Rule using pre-existing mathematical models (Lecture-1)
	5 th	Numerical integration by Simpson's 1/3 rd Rule using pre-existing mathematical models (Lecture-2)
13 th	1 st	Problem discussion of Unit 2 (Integral Calculus)
	2 nd	<ul style="list-style-type: none"> • Home Work Checking • Assignment Checking
	3 rd	Test-2
	4 th	Definition, Order, Degree and Linearity of an ordinary differential equation (Lecture-1)
	5 th	Definition, Order, Degree and Linearity of an ordinary differential equation (Lecture-2)
14 th	1 st	<ul style="list-style-type: none"> • Class Work Checking • Assignment work on Differential Equations and Statistics
	2 nd	Measures of Central Tendency: Mean
	3 rd	Measures of Central Tendency: Median
	4 th	Measures of Central Tendency: Mode
	5 th	Measures of Dispersion: Mean deviation
15 th	1 st	Measures of Dispersion: Standard Deviation
	2 nd	Co-efficient of rank correlation
	3 rd	Problem discussion of Unit 3 (Differential Equations and Statistics)
	4 th	<ul style="list-style-type: none"> • Home Work Checking • Assignment Checking
	5 th	Test-3