

## Lesson Plan

Name of the Faculty: Sandeep Rana

Discipline: CIVIL Engineering

Semester: III<sup>rd</sup>

Subject: MATHEMATICS-III

Work Load (Lecture/Practical) per week (in hours): Lectures- , Practicals-

Week	Theory		Practical	
	Lecture day	Topic (including assignment/test)	Practical day	Topic
1 <sup>st</sup>	1 <sup>st</sup>	<b>Fourier Series</b>	1 <sup>st</sup>	
	2 <sup>nd</sup>	Euler's Formulae, Conditions for Fourier expansions		
	3 <sup>rd</sup>	Revised topic		
	4 <sup>th</sup>	Fourier expansion of functions having points of discontinuity		
2 <sup>nd</sup>	5 <sup>th</sup>	change of interval, Odd & even functions, Half-range series	2 <sup>nd</sup>	
	6 <sup>th</sup>	Fourier Transforms : Fourier integrals		
	7 <sup>th</sup>	Fourier transforms		
	8 <sup>th</sup>	Fourier cosine and sine transforms		
3 <sup>rd</sup>	9 <sup>th</sup>	Properties of Fourier transforms	3 <sup>rd</sup>	
	10 <sup>th</sup>	Convolution theorem		
	11 <sup>th</sup>	Parseval's identity		
	12 <sup>th</sup>	Relation between Fourier and Laplace transforms		
4 <sup>th</sup>	13 <sup>th</sup>	Fourier transforms of the derivatives of a function	4 <sup>th</sup>	
	14 <sup>th</sup>	Application to boundary value problems		
	15 <sup>th</sup>	UNIT 1 TEST		
	16 <sup>th</sup>	Functions of a Complex Variables		
5 <sup>th</sup>	17 <sup>th</sup>	Exponential function	5 <sup>th</sup>	
	18 <sup>th</sup>	Trigonometric, Hyperbolic		
	19 <sup>th</sup>	Logarithmic functions		
	20 <sup>th</sup>	limit and continuity of a function		
6 <sup>th</sup>	21 <sup>st</sup>	Differentiability and analyticity	6 <sup>th</sup>	
	22 <sup>nd</sup>	Cauchy-Riemann equations		
	23 <sup>rd</sup>	Necessary and sufficient conditions for a function to be analytic		
	24 <sup>th</sup>	Polar form of the Cauchy-Riemann equations		
7 <sup>th</sup>	25 <sup>th</sup>	Harmonic functions	7 <sup>th</sup>	
	26 <sup>th</sup>	Application to flow problem		

	27 <sup>th</sup>	Conformal transformation, Standard transformations		
	28 <sup>th</sup>	UNIT 2 TEST		
8 <sup>th</sup>	29 <sup>th</sup>	<b>Probability Distributions</b>	8 <sup>th</sup>	
	30 <sup>th</sup>	Probability		
	31 <sup>st</sup>	Baye's theorem		
	32 <sup>nd</sup>	Revised Probability		
9 <sup>th</sup>	33 <sup>rd</sup>	Discrete	9 <sup>th</sup>	
	34 <sup>th</sup>	Continuous probability distribution		
	35 <sup>th</sup>	Moment generating function		
	36 <sup>th</sup>	Probability generating function		
10 <sup>th</sup>	37 <sup>th</sup>	Properties and applications of Binomial	10 <sup>th</sup>	
	38 <sup>th</sup>	Examples of probability		
	39 <sup>th</sup>	normal distributions.		
	40 <sup>th</sup>	UNIT 3 TEST		
11 <sup>th</sup>	41 <sup>st</sup>	Linear Programming	11 <sup>th</sup>	
	42 <sup>nd</sup>	Linear programming problems formulation		
	43 <sup>rd</sup>	Linear programming problems formulation		
	44 <sup>th</sup>	Solution of Linear Programming Problem		
12 <sup>th</sup>	45 <sup>th</sup>	Solution of Linear Programming Problem	12 <sup>th</sup>	
	46 <sup>th</sup>	Graphical method		
	47 <sup>th</sup>	Simplex Method		
	48 <sup>th</sup>	Simplex Method		
13 <sup>th</sup>	49 <sup>th</sup>	Dual-Simplex Method	13 <sup>th</sup>	
	50 <sup>th</sup>	Dual-Simplex Method		
	51 <sup>st</sup>	UNIT 4 TEST		
	52 <sup>nd</sup>	Probability, Baye's theorem		
14 <sup>th</sup>	53 <sup>rd</sup>	Fourier expansion of functions having points of discontinuity	14 <sup>th</sup>	
	54 <sup>th</sup>	Functions of a complex variable		
	55 <sup>th</sup>	Relation between Fourier and Laplace transforms		
	56 <sup>th</sup>	Cauchy-Riemann equations		
15 <sup>th</sup>	57 <sup>th</sup>	UNIT 1 REVISION	15 <sup>th</sup>	
	58 <sup>th</sup>	UNIT 2 REVISION		
	59 <sup>th</sup>	UNIT 3 REVISION		
	60 <sup>th</sup>	UNIT 4 REVISION		