Physics by fiziks

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Study Plan of Mathematical Methods of Physics for Pre-recorded Batches

(For NET-JRF, GATE, JEST, TIFR Aspirant and M.Sc Students)

Days	Enter Your Dates	Topics
Day: 1		Lecture 1: Introduction and Cartesion Coordinate System
		Lecture 2: Spherical Polar Coordinate System
Day: 2		Lecture 3: Cylindrical Coordinates System and Tranformation of Vector
		Lecture 4: Gradient and Divergence
Day: 3		Lecture 5: Curl and Second Derivative
		Lecture 6: Line, Surface and Volume Integral, Gradient Theorem
		Solve Assignment No 1: Lect-1 to Lect-5
Day: 4		Lecture 7: Gauss Divergence Theorem
		Lecture 8: Stoke'ss Theorem
Day: 5		Lecture 9: Miscellaneous Example Part-1
		Lecture 10: Miscellaneous Example Part-2
		Lecture 11: Greens Theorem
Day: 6		Solve Assignment No 2: Lect-6 to Lect-11
Day: 7		Class Test 1: Vector Analysis (Lect-1 to Lect-11)
Day: 8		Lecture 12: Complex Number Part-1
		Lecture 13: Complex Number Part-2
		Lecture 14: Complex Function
Day: 9		Lecture 15: Taylor Series
		Lecture 16: Laurent's Series Part-1
		Lecture 17: Laurent's Series Part-2
		Solve Assignment No 3: Lect-12 to Lect-17
Day: 10		Lecture 18: Contour Integration
		Lecture 19: Real Integration 0 to 2pi
Day: 11		Lecture 20: Real Integration 0 to Infinity
		Lecture 21: Real Integration
Day: 12		Lecture 22: Integration Branch Point
		Lecture 23: Integration 0 to Infinity Not Even Function
Day: 13		Solve Assignment No 4: Lect-18 to Lect-23
Day: 14		Class Test 2: Complex Variable (Lect-12 to Lect-23)
Day: 15		Lecture 24: First Order Ordinary Differential Equation Part-1
		Lecture 25: First Order Ordinary Differential Equation Part-2
Day: 16		Lecture 26: First Order Ordinary Differential Equation Part-3
		Lecture 27: Second Order Ordinary Differential Equation & Wronskian
		Solve Assignment No 5: Lect-24 to Lect-26
Day: 17		Lecture 28: Particular Integeral Second Order differential Equation
		Lecture 29: Previous Year Problems
		Solve Assignment No 6,7 & 8: Lect-27 to Lect-29
Day: 18		Lecture 30: Partial Differential Equation (PDE) Introduction
		Lecture 31: PDE 1D Wave Equation Solutions

Day: 19		Lecture 32: PDE Heat Equation
		Lecture 33: PDE Heat Equation Diffusion Cases
		Lecture 34: PDE Polar Coordinates
Day: 20		**Solve Assignment No 9: Lect-30 to Lect-34**
Day: 21		**Class Test 3: Ordinary and Partial Differential Equation (Lect-24 to Lect-34)**
Day: 22		Lecture 35: Special Function Legendre
		Lecture 36: Legendre Differential Equation
Day: 23		Lecture 37: Bessel Differential Equation
		Lecture 38: Laguerre Differential Equation
		Solve Assignment No 10: Lect-35 to Lect-38
Day: 24		Lecture 39: Greens Function Part-1
		Lecture 40: Greens Function Part-2
		Lecture 41: Greens Function Problems
		Solve Assignment No 11: Lect-39 to Lect-41
Day: 25		Lecture 42: Matrices Basics Part-1
		Lecture 43: Matrices Basics Part-2
		Lecture 44: Matrices Similarity Transformation
Day: 26		Lecture 45: Matrices Spectral Decomposition
		Lecture 46: Functional Matrices Part-1
		Lecture 47: Functional Matrices Part-2
Day: 27		**Solve Assignment No 12 & 13: Lect-42 to Lect-47**
Day: 28		**Class Test 4: Greens and Special functions (Lect-35 to Lect-41)**
		Class Test 5: Matrices (Lect-42 to Lect-47)
Day: 29		Lecture 48: Fourier Series Introduction
		Lecture 49: Fourier Series Full Range
Day: 30		Lecture 50: Fourier series Half Range
		Lecture 51: Fourier Series Problems
		Solve Assignment No 14 & 15: Lect-48 to Lect-51
Day: 31		Lecture 52: Fourier Transform Part-1
		Lecture 53: Fourier Transform Part-2
Day: 32		Lecture 54: Fourier Transformation Properties
		Lecture 55: Fourier Transform Problems
		Solve Assignment No 16: Lect-52 to Lect-55
Day: 33		Lecture 56: Laplace Transform Introduction Part-1
		Lecture 57: Laplace Transform Introduction Part-2
Day: 34		**Solve Assignment No 17, 18 & 19: Lect-56 to Lect-57**
Day: 35		**Class Test 6: Fourier Series and Fourier Transform (Lect-48 to Lect-57)**
Day: 36		Lecture 58: Numerical technique Algebric Equations
		Lecture 59: Numerical technique Interpolation
Day: 37		Lecture 60: Numerical Technique Integral
		Lecture 61: Numerical Technique ODE
		Solve Assignment No 20: Lect-58 to Lect-61
Day: 38		Lecture 62: Probability Distribution
Day: 39		**Class Test 7: Numerical Technique and Probability Distribution (Lect-58 to Lect-62)**