



Physics by fiziks

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"Discipline is the Bridge between Goal and Success"

Study Plan of Mathematical Methods for Pre-recorded Batches

(For IIT-JAM, JEST, TIFR and M.Sc Entrance and B.Sc Students)

Days	Enter Your Dates	Topics
Day: 1		Lecture 1: Introduction and Cartesian Coordinate System
		Lecture 2: Spherical Polar Coordinate System
Day: 2		Lecture 3: Cylindrical Coordinates System and Transformation 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: Ordinary Differential Equation (ODE) Basic
		Lecture 13: ODE-Variable Separable Differential Equation
Day: 9		Lecture 14: ODE- Homogeneous Differential Equation
		Lecture 15: ODE- Linear and Reducible to Linear
Day: 10		Lecture 16: ODE- Exact Differential Equation
		Lecture 17: Second Order Differential Equation
		Solve Assignment No. 3: Lect-12 to Lect-16
Day: 11		Lecture 18: Problem Discussion Second Order Differential Equation
		Lecture 19: Eulers form and Wronskian
Day: 12		Lecture 20: Non-Homogeneous Second Order Differential Equations
		Lecture 21: Problems on ODE
Day: 13		Solve Assignment No. 4: Lect-17 to Lect-21
Day: 14		Class test 2: Differential Equation of 1st and 2nd order (Lect-12 to Lect-21)
Day: 15		Lecture 22: Matrices Basic Part-1
		Lecture 23: Matrices Basic Part-2
Day: 16		Lecture 24: Rank of Matrices
		Lecture 25: Eigen Values and Eigen Vectors Part-1
Day: 17		Lecture 26: Eigen Values and Eigen Vectors Part-2
		Lecture 27: Previous Year questions on Matrices
Day: 18		Lecture 28: Similarity Transformation
		Lecture 29: Multiple Variable Jacobian
		Solve Assignment No. 7 & 8: Lect-22 to Lect-28
Day: 19		Lecture 30: Jacobian Multiple Variable
		Lecture 31: Jacobian

Day: 20		Revision and Practice
Day: 21		Class test 3: Matrices (Lect-22 to Lect-28)
Day: 22		Lecture 32: Functional Matrices
		Lecture 33: Taylors Series 1 and 2 Variable
Day: 23		Lecture 34: Taylor 2D Problems
		Lecture 35: Properties of Partial Derivatives
		Solve Assignment No. 12 & 13: Lect-29 to Lect-35
Day: 24		Lecture 36: Introduction to Complex Number
		Lecture 37: Roots of Equations
Day: 25		Lecture 38: Properties Complex Number
		Lecture 39: Problems of Complex Number
		Solve Assignment No. 9, 10 & 11: Lect-36 to Lect-39
Day: 26		Lecture 40: Fourier Series Basics
		Lecture 41: Fourier Series $-\pi$ to π (Full Series) Part-1
Day: 27		Class test 4: Multiple Variable (Lect-29 to Lect-35)
Day: 28		Class test 5: Complex Number (Lect-36 to Lect-39)
Day: 29		Lecture 42: Fourier Series $-\pi$ to π (Full Series) Part-2
		Lecture 43: Fourier Series $-\pi$ to π (Full Series) Part-3
Day: 30		Lecture 44: Fourier Series $-L$ to L (Full Series)
		Lecture 45: Fourier Series- Half Series
Day: 31		Lecture 46: Complex Fourier Series
		Lecture 47: Problem Discussion of Fourier Series
Day: 33		Solve Assignment No. 5 & 6: Lect-40 to Lect-47
Day: 34		Revision and Practice
Day: 35		Class test 6: Fourier Series (Lect-40 to Lect-47)