

Assistant Professor: - Mr. Himanshu (Mathematics)

Class: - B.Sc.\ B.A. (6th Sem.)

Subject: - Dynamics

Week	Topic
Jan 1st Week	Introduction about Syllabus
Jan 2nd Week	Basic definitions
Jan 3rd Week	Radial and transverse velocity and acceleration
Jan 4th Week	Tangential and normal velocity and acceleration
Feb 1st Week	Relative velocity and acceleration
Feb 2 nd Week	Newtons Laws of motion
Feb 3rd Week	Motion of Particle on smooth and rough planes
Feb 4th Week	projectile motion of a particle in a plane.
March 1st Week	Vector angular velocity
March 2nd Week	Holidays
March 3rd Week	Simple harmonic Motion
March 4th Week	Elastic Strings
April 1st Week	Mass, Momentum, and force
April 2nd Week	General Motion of a Rigid Body, central orbit
April 3rd Week	Kepler's law of motion, motion of a particle in 3D
April 4th Week	Acceleration in terms of differential coordinates systems

Assistant Professor: - Mr. Himanshu (Mathematics)

Class: - M.Sc. Mathematics (2nd Semester)

Subject: - Computer programming with MATLAB

Week	Topic
Jan 4th Week	Introduction to MATLAB, Windows
Feb 1st Week	Working in command window, Arithmetic operators, Format, Built in function.
Feb 2nd Week	Variables, Script files
Feb 3rd Week	Creating arrays (1D, 2D), transpose operator, Addressing arrays
Feb 4th Week	Deleting rows/columns, Linear algebra operations, and Arrays. Save/Load functions, M-files, The find function, Anatomy of a program, Constants, and Format functions.
Mar 1st Week	Suppressing Output, Multivariate data expansion, Logical subscripting, Input and Output functions.
Mar 3rd Week	Good programming style and MATLAB's Data Structures: Multidimensional arrays, Characters, and Text structures.
Mar 4th Week	Scripts and Functions: Writing Scripts, Function types, Global Variables, Passing string arguments to functions.
Apr 1st Week	Function Handles, Function Functions, Vectorization,
Apr 2nd Week	Flow Control: if-else, switch-case, for loops, while loops, continue, break, try-catch, and return.
Apr 3rd Week	Graphics and Plotting: Figure windows, plot types, Plot editing, Modifying graph data.

Apr 4th Week	Multiple Data Sets in one graph, Axis Labels, Titles, Mesh and Surface Plots, Image Processing Basics.
May 1st Week	Printing and Handle Graphics: Using the Handle, Object Properties, Modifying Figures, Creating Animations and Movies.
May 2nd Week	Symbolic Math: Symbolic objects, Expressions, Creating symbolic variables and functions.
May 3rd Week	Calculus in MATLAB: Limits, Differentiation, Integration, Symbolic Summation, Taylor Series, Variable Precision Arithmetic.
May 4th Week	Linear Algebra: Eigenvalues, Jordan Canonical Form, Singular Value Decomposition, and Solving Equations (Algebraic and Differential).

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Class: - B.B.A. (2nd Sem.)

Subject: - Dynamics

Week	Topic
Feb 2nd Week	Introduction about syllabus
Feb 3rd Week	Average
Feb 4th Week	Ratio and Proportion
Mar 1st Week	Simple and Compound Interest
Mar 2nd Week	HOLIDAYS
Mar 3rd Week	Annuities and types of annuities
Mar 4th Week	Valuation of simple loans and debentures, Sinking funds
Apr 1st Week	Indices and Logarithms
Apr 2nd Week	Arithmetic's progression
Apr 3rd Week	Geometric Progression
Apr 4th Week	AP & GP business applications
May 1st Week	Introduction of Linear Programming, Formulation of problem
May 2nd Week	Solution of LPP by graphical method
May 3rd Week	Solution of LPP by Simplex method
May 4 th Week	Application of LPP and revision.