

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI**

**Course Schedule: November 2024 – April 2025**

**Department** : MATHEMATICS  
**Name/s of the Faculty** : ARUL ROSELET MERYLNE S.  
**Course Title** : PRINCIPLES OF MECHANICS  
**Course Code** : 19MT/MC/PM65  
**Shift** : II

<b>Week &amp; No. of hours</b>	<b>Units &amp; Topics</b>	<b>Teaching Methodology</b>	<b>Text &amp; References</b>	<b>Method of Evaluation</b>
Nov 18 – 25, 2024 (Day Order 1-6) (6 hrs)	<b>Unit – 1</b> <b>Forces acting on a Particle – Concurrent Forces</b> 1.1 Forces 1.2 Types of forces 1.3 Parallelogram law of forces 1.4 Triangle law of forces	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning
Nov 26- Dec 3, 2024 (Day Order 1 to 6) (6 hrs)	<b>Unit – 1</b> <b>Forces acting on a Particle - Concurrent Forces</b> 1.5 Polygon law of forces 1.6 Lami’s theorem 1.7 Conditions of equilibrium of any number of forces acting on a particle	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Quiz
Dec 4-11, 2024 (Day Order 1 to 6) (6 hrs)	<b>Unit – 2</b> <b>Non-Concurrent Coplanar Forces</b> 2.1 Moment of a force about a point and a line 2.2 Parallel forces 2.3 Varignon’s theorem	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning

Dec 12-19, 2024 (Day Order 1 to 6) (6 hrs)	<b>Unit – 2 Non-Concurrent Coplanar Forces</b> 2.4 Couples 2.5 Properties of couples 2.6 Coplanar forces	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning& Component - I Test (Part of Unit - I)
Dec 20, 2024 (Day Order 1 ) (1 hr.)	<b>Unit – 2 Non-Concurrent Coplanar Forces</b> 2.6 Coplanar forces	Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning
Jan 3 – 7, 2025 (Day Order 3 to 6) (3 hrs)	2.7 Reduction of any coplanar system of forces 2.8 Conditions of Equilibrium	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning
Jan 8 – 17, 2025 (Day Order 1 to 6) (6 hrs)	2.9 Equilibrium of three forces acting on a rigid body	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning
Jan 18 - 23, 2025	<b>C.A. Test – I</b> Units I & II full			
Jan 24 - 30, 2025 (Day Order 1 to 6) (6 hrs)	<b>Unit – 3 Friction</b> 3.1 Laws of statical friction 3.2 Coefficient of friction 3.3 Angle of friction 3.4 Cone of friction	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning
Feb 3-8, 2025 (Day Order 1 to 6) (6 hrs)	<b>Unit – 3 Friction</b> 3.5 Law of kinetic friction 3.6 Equilibrium of a particle on an inclined plane	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning
Feb 3-8, 2025 (Day Order 1 to 6) (6 hrs)	<b>Unit – 3 Friction</b> 3.7 Condition for sliding and toppling <b>Unit - 4 Equilibrium of Strings and Chains</b> 4.1 Equilibrium of strings and chains	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning
Feb 10– 18, 2025	<b>Unit - 4 Equilibrium of</b>	Lecture &	Dharmapadam	Questioning

(Day Order 1 to 4) ( 4hrs)	<b>Strings and Chains</b> 4.2 Common catenary 4.3 Suspension bridge	Solving Problems	A.V. Statics, Chennai: S. Viswanathan,2006	
Feb 27- Mar 6, 2025 (Day Order 1 to 6) (6 hrs)	<b>Unit - 4 Linear Motion in a resisting medium</b> 4.4 Equations of motion of a particle falling under gravity in a resisting medium under law of resistance $mkv$ , $mkv^2$ 4.5 Limiting velocity Solving exercise problems and revision	Lecture & Solving Problems	Dharmapadam A.V. Statics, Chennai: S. Viswanathan,2006	Questioning & Component – II Exhibition - Mechanics
Mar 7 – 11, 2025 (Day Order 1 to 3) (6 hrs)	<b>Unit – 5 Rigid Body Dynamics</b> 5.1 Moment of inertia 5.2 Theorem of parallel and perpendicular axes (Statements only) 5.3 Moment of inertia of simple standard bodies	Lecture & Solving Problems	Dharmapadam A.V. Dynamics, Chennai: S. Viswanathan,2006	Questioning
Mar 12 –17, 2025	<b>C.A. Test – II</b> Unit – III & Unit - IV full			
Mar 18 – 20, 2025 (Day 4 to 6) 6) (3 hrs)	<b>Unit – 5 Rigid Body Dynamics</b> 5.4 Motion of a rigid body 5.5 Rotation about a fixed axis	Lecture & Solving Problems	Dharmapadam A.V. Dynamics, Chennai: S. Viswanathan,2006	Questioning& Component – III Test (Part of Unit - V)
J Mar 21 - 28, 2025 (Day Order 1 to 6) (6 hrs)	<b>Unit – 5 Rigid Body Dynamics</b> 5.6 Expressions for kinetic energy 5.8 Angular momentum	Lecture & Solving Problems	Dharmapadam A.V. Dynamics, Chennai: S. Viswanathan,2006	Questioning
Mar 29- April 3, 2025 (Day Order 1 to 3)	<b>Unit – 5 Rigid Body Dynamics</b> 5.9 Equation of motion	Lecture & Solving Problems	Dharmapadam A.V. Dynamics, Chennai: S. Viswanathan,2006	Questioning
	<b>REVISION</b>			

