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Units	Sub-Units	Topics	2020		2019		2018		2017		2016		2015		2014		2013		2012		2011		2010		2009		2008		Other Questions
			IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	
Unit-1 Linear Algebra	1. Matrices	1. Matrices & Determinants-Basics					1b		1a				1a, 4a														1a		
		2. System of Linear Equations			4a								2b				2d		2d										
		3. Eigen Values & Vectors, Cayley Hamilton Theorem	4b(i)		1b 2b		1e		2a 4a		1e		3a		1b, 2a, 3a		1b		2b		2b, 2c		2b, 2c		2c		2a, 2b		
		4. Rank of a matrix	1b						3a		3a												2d		2b		2c		
		5. Similarity of Matrices	1a 3b														4b												
		6. Bilinear and Quadratic Forms, Congruency					2b				4a						2c				2d		1b		2d		2d		
	3. Vector Spaces & Linear Transformations	1. Vector Spaces, Linear combination	4b(ii)		3a		2d, 4d		1b, 3b				2a		1a		1a		1a, 1b		1a, 2a		1a, 2a		1a		1b		
		1. LT, Range space, Null Space													2d		2a, 3c				1b				1b, 2a				
		2. Matrix of LT	2a		1a		3c				1a, 2d		1b		4d				2a, 3a										
	1. Diff Calculus	1. Limit, Continuity & Differentiability	1c										1c, 3b, 4d		1c				3d								1c		
		2. Indeterminate Forms	4c(i)																										
		3. Mean Value Theorems, Applications	1d		1d		1c, 2c		1c		1b, 2c						1e, 3a				3a		1c, 1d		1c(ii)				
		4. Maxima Minima					1a																		1c(i)		3c		
		5. Asymptotes	3a	1d													4d								3b				
		1. Functions, Limit, Continuity, Differentiability			3b		4b		4b		1c										1c		3c						

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Unit-2 Calculus	2. Functions of two/ three Variables	2. Partial Derivatives, Jacobian					3b		1d										1c, 1d								1d		
		3. Increasing Decreasing, Rate of Change, Total Differential, Maxima & Minima, Saddle Point			2a, 3b				2d				3c		2b		2b		3b				3b		3a				
		4. Lagrange Method of Multipliers	2b								3b																		
	3. Integral Calculus	1. Definite Integrals, Area									3c		1d				4a												
		2. Reimann Integral													4a						1d				1d				
		3. Infinite & Improper Integrals	4c(ii)																				3a						
		3. Double & Triple Interals					3d		3c		2a		3c		1d, 4c		1c						3d		3c, 3d		3a, 3b		
		5. Surface Area & Volume			1c								2d						4a		3c						3d		
		6. Beta & Gamma Functions							2b		4b, 4c				3c				4d		3b								
		6. Miscellaneous Topics			4b																								Centroid

Unit-3 Analytical Geometry	1. 2D	Conics, General Eqn of 2nd Degree	1e		1e						1d, 2b		1e, 4c				3b				4c								
	2. Three Dimensional	1. Locus, DRs & DCs	2c		2c				3d																				
		2. Plane	3c						1e				3d								1e		1e						
		3. Straight Lines											4b		1e		1d										4a		
		4. Skew Lines- Shortest Distance & Its Eqn			3c				4d								4c		3c										
		5. Sphere					3a				3d				2c, 3b				4b				1f		1e, 4a		4b		
		6. Cone			4c		4a		4c		4d				3d, 4b				1e				4a, 4c		4b		1e		

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			IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	
	nal	7.Cylinder					2a														4a								
		8. Paraboloid																			4d								
		9. Ellipsoid	4a				1d												2c, 4c		4b		4b, 4d		4c, 4d		4d		
		10. Hyperboloid of one and two sheets															3d										4c		
		11. Generating Lines					4c																						
		12. General Eqn of 2nd Degree																											
Unit-4 ODE	1. ODE	1. Formulation of D.E., Orthogonal Trajectories																							5b		5a		
		2. Eqn of 1st Order and 1st Degree	5a				6a, 7b, 8b				5a, 8b				6a		5a		5a		5a		5a 6a		5a 6a				
		3. Eqn of 1st Order but NOT of 1st Degree	8b		5b				6a, 7a		7c		5a		5a				5b, 6a, 8a		6a		6c		6b		5b 6a		
		4. Linear Eqn with Constant Coefficients	5b		5a, 7a		5a		5a		5b		6c		5b, 7c		7a		6d		6c		5b		6c				
		5. Homogenuos Linear Equations	7b																								6b		
		6. 2nd Order Linear Eqns with Variable Coefficient	6a		8a				5b				5e, 6a				6a		8d		5b, 6b		6b		6d		6c		
		7. Variation of Parameters			6a		5b		8a		6b				6c		8a						6d				6d		
	2. Laplace Operator	8. Laplace and Inverse Laplace Transformations																											
		9. Solving ODE using Laplace Transformation																											
		1. Motion along a Plane Curve	5c								8d												7c						

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Unit-5 Dynamics, Statics & Hydrostatics	1. Dynamics	2. SHM					5c, 6b		5c								5b								5d		7b		
		3. Projectiles			8b						5d, 6a								5c, 6c				5d				5d		
		4. Constrained Motion											5b																
		5. Work, Energy & Power													6b										7c		5c 7c		
		6. Central Orbits	6b		6b				8b				8c		5c				7a				7b		7b				
		7. Motion in Resisting Medium											7c				7c, 8c												
		8. Kepler's Laws of Planetray Motion							7b												5c								
	2. Statics	1. Equilibrium of a System of Particles	5d		5c		7c				5c		6b				5e				7a		5c		5c				
		2. Friction									7b				8a		6c												
		3. Principle of Virtual Work							6b												7b				7a				
		4. Stable & Instable Equilibrium							5d						7a				7b										
		5. Elastic Strings																	8c										
		6. Common Catenary	7a				7a						7a								5d		7a						
	3. Hydrostatics	1. Fluid Pressure under Gravity & Conditions of Equilibrium									6c								5d		7c				7d				
		2. Whole Pressure on a Plane Surface			7b								5d		5d														
		3. Thrust on Curved Surfaces	8c				8a																						
		4. Centre of Pressure					5d		7c				8a						7c				5e						
		5. Equilibrium of Floating Bodies									8a				8b		5d										7a		
		1. Triple Products, Vector & Scalar Fields, Projections									8c				5e						8d						8c		

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			IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	IFoS	CSE	
Unit-6 Vector Analysis	1. Vector Differentiation	2. Differentiation of Vector fns																									8b		
		3. Gradient, Divergence & Curl	5e				5e		5e				6d		6d		5c		5e		8b		5f 8a(ii)		8a		8a		
		4. Invariance, Curvilinear Coordinates- Spherical and Cylindrical Coordinates	8a		8c																				8b				
	2. Vector Integration	1. Line Integral, Circulation, Work Done			5e		6c												8b				8a(i)						
		2. Surface Integral															6b						8c				5e		
		3. Volume Integral																											
		4. Green's Theorem																			8c		8d		5e				
		5. Gauss' Divergence Theorem	7c								5e		7b		8c		8b						8b				8d		
		6. Stoke's Theorem			6c				6c, 7d		6d, 7a		8b		7b				6b		5e				8c				
	3. Curves in Space	1. Tangent, Normal & Binormal Triad, Curvature & Torsion	6c				7d		8c				5c								8a								
		2. Serret Frenet Formulas, Imp Theorems			5d, 7c		8c		8d																8d				