Integral Calculus and Ordinary Differential Equation

Calculus– James Stewart - 8th edition

Topics	Sub topics and Example	Exercise	Number of Lectures	Quiz
Indefinite Integrals (Chapter 5, page- 402)	Table of integrals (P-403)	P-408 Ex # 5-18	2	
	Substitution rules (P-412) Example # 1, 3, 5, 6, 8	P-418 Ex # 7 - 13, 15, 18, 20, 21, 27, 31, 32, 43.		
Definite Integrals	Fundamental Theorem of Calculus (P-396) Example (P-396) # 5,6,7	P-400 Ex # 19, 23, 24, 25, 27, 29, 35, 43 P-409 Ex # 21 - 30	2	Quiz1
	Substitution for definite Integrals (P – 416) Example # 7, 8, 9	P- 419 Ex # 53, 54, 55, 59, 60, 70, 71		
Properties of definite integrals	Even and odd functions (P-17) Example # 11, (P-417) Example # 10,11 Properties of D. I. (P-385 to 387) Example # 6	P- 419 Ex # 61, 66, P- 422 Ex # 22, 23		
Riemann Sum (P-379) and Trapezoidal rule (P-514)	P-381 Example # 2(a) P-516 Example # 1	P- 388 Ex # 1, 3, 7, 9 P- 524 Ex # 7, 8, 9 (n= 4, 6) LRS, RRS, MRS, TR	1	
Applications of Integration (Chapter – 6)	Area (P- 428) Example # 1, 2, 6, 7	P- 434 Ex # 1, 3, 5 – 9, 13, 14, 17, 18, 22	2	
	Volume (P-438) Example # 2, 3, 4	P- 446 Ex # 1-10		Quiz2
Improper Integrals, Gamma and Beta Functions	Note will be provided		1	
Techniques of Integration (Chapter -7)	Integration by parts (P-472) Example # 1, 2, 3, 4, 5	P – 476 Ex # 1, 3, 5, 7, 17, 23	4	
	Trigonometric Integrals (P-479) Example # 3, 4, 9	P- 484 Ex # 7, 11, 23, 35, 39, 41, 43, 45, 46		
	Trigonometric Substitution (P-486) Example # 1, 3, 7	P – 491 Ex # 1-4, 6, 10-14, 21, 23		Quiz3
	Partial Fraction (P-493) Example # 2, 3, 5	P-501 Ex # 9-12, 19, 20, 23, 24, 25		

Syllabus for Midterm exam - Indefinite Integrals; Definite Integrals; Riemann Sum and Trapezoidal rule; Applications of Integration; Improper Integrals, Gamma and Beta Functions; Techniques of Integration.