Final Exam
Review Topics

Part I – Problems will cover the material in Chapter 13 on LaPlace transforms		
Section	Topics	Problems

13.1 - 13.3	LaPlace Transforms
	    Table 13.1
	Inverse LaPlace Transforms
	Partial Fraction Decompositions
		Page 459
		  6, 9, 12
		  15, 19, 23, 33, 35
		  40, 42, 44, 50, 53, 55

13.4	Solutions of Linear Differential Equations via LaPlace Transforms $\mathcal{L}(y') = sY - y(0)$ $\mathcal{L}(y'') = s^2Y - sy(0) - y'(0)$	Page 464 4, 7, 9, 15, 17, 21, 26, 28
13.4	Chapter Review	Page 465 3, 12, 14, 17, 21, 23
Part II – Problems will be modeled on selected problems taken from the five semester exams		
Exam I	Differentiation Integration Complex Numbers	Exam I 1a, 1c, 1d, 2, 4a, 4c, 6
Exam II	Partial Derivatives Multiple Integrals	Exam II 1, 2, 5
Exam III	Infinite Series Geometric Series Convergence Tests MacLaurin Series Approximation and Error Estimates	Exam III 1, 2a, 2b, 3, 5a, 5b, 5c
Exam IV	First Order Differential Equations Solutions of Differential Equations Initial Value Problems (IVP) Separable Equations Linear Equations Applications	Exam IV 1, 2, 4, 5, 6, 7

Exam V	Higher Order Linear Constant Coefficient D. E.
	Auxiliary Equation
	Homogeneous Equation
	    Distinct Roots, Repeated Roots, Complex Roots
	Non-homogeneous Equations
	    Complementary Solution, Particular Solution
	Applications: Damped Oscillatory Motion
		Exam V
		  1, 2, 3, 4, 7, 8, 9, 11, 12, 13