CONTENTS

Prefa	ace		
	1. Introduction – modeling and numerical methods	1	
Part	1. Solution of staged separation problems by use of the two – point		
	implicit method		
	2. Introduction to the dynamic behavior of evaporator systems	37	
	3. Dynamics of a multiple – effect evaporator system	72	
	4. Solution of problems involving continuous distillation columns by use the		
	two- point implicit method	123	
	5. Solution of batch – distillation problems	177	
Part	2 Solution of staged separation problems by use of a semi- implicit runge – kutta		
	method and gear 's method		
	6. Solution of unsteady state absorber problems by use of a semi – implicit runge – ku	tta	
	method and gear 's method	217	
	7. Modeling of packed absorbers at unsteady state operation	253	
	8. Modeling of a distillation column and its control system	269	
	9. Development of runge – kutta methods and multistep		
	integration algorithm	301	
Part	3 Solution of problems involving continuous separation processes		
	10. Development of the numerical methods applicable to differential and partial differential		
	equations	331	
	11. Fundamentals of adsorption processes	362	
	12. Separation of multicomponent mixtures by use of adsorption columns	389	
	13. Modeling and solution of the equations for the freeze- drying process	420	
	14. Thermodynamics of the physical adsorption of pure gases and multicomponent gas		
	mixtures by solid adsorbents	439	
	15. Index	469	