Contents

	Preface	ix
	Acknowledgements	xi
	Author	xiii
1	**Introduction**	1
2	**Geometry of areas**	23
3	**Kinematics and statics of rigid body systems**	55
4	**Determination of constraint reactions**	95
5	**Internal beam reactions**	125
6	**Statically determinate beam systems**	159
7	**Analysis of strain and stress**	191
8	**Theory of elasticity**	219
9	**Saint Venant problem**	257
10	**Beams and plates in flexure**	313
11	**Statically indeterminate beam systems: Method of forces**	365
12	**Energy methods for the solution of beam systems**	395

Appendix A: Calculation of the internal reactions in a circular arch subjected to a radial hydrostatic load 449
Appendix B: Calculation of the internal reactions in a circular arch subjected to a uniformly distributed vertical load 455
Appendix C: Anisotropic material 461
Appendix D: Heterogeneous beam 473
Appendix E: Heterogeneous plate 479
Appendix F: Finite difference method 483
Appendix G: Torsion of multiply connected thin-walled cross sections 487
Index 489