

Contents

| | |
|--|-----|
| Foreword | v |
| 1 Introduction | 1 |
| 2 Eulerian Circuits and Hamiltonian Cycles | 29 |
| 3 Trees | 37 |
| 4 Chromatic Numbers | 49 |
| 5 Planar Graphs | 55 |
| 6 Matchings in Bipartite Graphs | 65 |
| 7 Extremal Graph Theory | 77 |
| 8 Ramsey Theory | 89 |
| 9 Directed Graphs | 99 |
| 10 Infinite Graphs | 117 |
| Appendix A: Probabilities in Graph Theory | 129 |
| Appendix B: Linear Algebra in Graph Theory | 143 |

| | |
|--|------------|
| Solutions | 153 |
| 1 Introduction | 153 |
| 2 Eulerian Circuits and Hamiltonian Cycles | 191 |
| 3 Trees | 203 |
| 4 Chromatic Numbers | 227 |
| 5 Planar Graphs | 241 |
| 6 Matching in Bipartite Graphs | 252 |
| 7 Extremal Graph Theory | 262 |
| 8 Ramsey Theory | 290 |
| 9 Directed Graphs | 307 |
| 10 Infinite Graphs | 333 |
| Appendix A: Probabilities in Graph Theory | 354 |
| Appendix B: Linear Algebra in Graph Theory | 373 |
| | |
| Bibliography and Further Reading | 381 |
| | |
| Glossary | 383 |
| | |
| Other Books from XYZ Press | 391 |