CONTENTS

1 INTRODUCTION **9**
1.1 Basic Terminology 9
1.2 Exercises 11

2 SEQUENCES **13**
2.1 Arithmetic Sequence 13
2.2 Geometric Sequence 14
2.3 Exercises 15

3 INTEREST **17**
3.1 Simple Interest 18
3.2 Current Account 20
3.3 Bank Discount 22
3.4 Bill of Exchange 23
3.5 Compound Interest 24
3.6 Continuous Interest 25
3.7 Combination of Simple and Compound Interest 26
3.8 Effective Annual Interest Rate 28
3.9 Exercises 29

4 INFLATION, REAL INTEREST RATE **31**
4.1 Inflation 31
4.2 Real Interest Rate 31
4.3 Exercises 33

5 ANNUITIES **35**
5.1 Simple Annuity 35
5.2 Sinking Fund 37
5.3 General Annuity 38
5.4 Exercises 39

6 LOAN REDEMPTION **41**
6.1 Fixed Installments 42
6.2 Fixed Depreciation 44
6.3 Exercises 45

7 ASSETS DEPRECIATION **49**
7.1 Straight-line / Even Depreciation Method 50
7.2 Method of Declining Balance 51
7.3 Sum-of-the-Years-Digits Depreciation Method 52
7.4 Exercises 54

8 BONDS **55**
8.1 Zero–coupon Bonds 56
8.2 Coupon Bonds 59
8.3 Exercises 60

9 SHARES AND OPTIONS **63**
9.1 Share 63
9.2 Option 67
9.3 Exercises 69

10 MORTALITY TABLES **71**
10.1 Construction of Mortality Tables 72
10.2 Commutation Tables 75
10.3 Exercises 76

11 LIFE INSURANCE **77**
11.1 Whole Life Insurance 78
11.2 Temporary Life Insurance 79
11.3 Pure Endowment Insurance 80
11.4 Endowment Insurance 81
11.5 Exercises 84

12 LIFE ANNUITIES **85**
12.1 Whole Life Annuity 85
12.2 Temporary Life Annuity 90
12.3 Exercises 91

APPENDIX **93**
A.1 Life Tables – Men – Czech Republic – 2001 93
A.2 Life Tables – Women – Czech Republic – 2001 96
A.3 Actuarial Tables – 3% – Men – Czech Republic – 2001 99
B.1 Czech – English Dictionary of Finance and Insurance 102
B.2 English – Czech Dictionary of Finance and Insurance 109
C.1 Revision Test I 116
C.2 Revision Test II 118

INDEX **120**

BIBLIOGRAPHY **123**