Solutions

9.1 Compund Interest

1. €6092.01
2. €40099.18
3. 0.287 %
4. 0.343 %
5. 2.43 %
6. 1.3 %
7. 4.47 %
8. €10804.78
9. €4396.51
10. 12.6 years
11. 13.9 years
12. 3.5 %
13. 4.1 %
14. €1793.47
15. €8710.33
16. €165677.23
17. €3135.21
18. €6568.04
19. €19071.12
20. €25043.12
21. €7624.44; €2624.44

payment number	time to payment (years)	actual amount	present value
1	0	485,199	485,199
2	1	504,606·96	481,587·10
3	2	524,791·24	478,002·02

9.2 Depreciation

1. €13311.16
2. €34992
3. 11 %
4. 2.7 years
5. i. €56299.90
   ii. €67004.78
   iii. €278244.56
   iv. €154939.88

9.3 Financial Sereis

1. €11807.80
2. €5321.85; €521.85
3. €2656.58
4. €1919.08
5. €653.05
6. €524.24
7. €169.72
8. 2.66 %
9. 3.53 %
10. €7360.09
11. €8595.28
12. €102213.96
13. P.V. of series = €921399.32
    Take the lump sum
14. P.V. of series = €15921433.44
    Take the series of payments
15. €65118.35
16. €1230.34
17. €1225.45
18. €182442
19. €208580.98
20. (a) €443959.25
    (b) €12787.12
21. (a) €355181.26
    (b) €120.84
22. €863.61

9.4 Exam Questions

1. €440132.40
2. (a) Proof
   (b) i. €125
   ii. 1.65%
   iii.

Payment number	Fixed monthly payment, €A	€A		New balance of debt (€)
		Interest	Previous balance reduced by (€)	
0				5000
1	125	82·50	42·50	4957·50
2	125	81·80	43·20	4914·30
3	125	81·09	43·91	4870·39

   iv. 66 months
   v. €36.16
   vi. €2609.04
3. (a) i. 4.28 %
   ii. 0.367 %
   (b) €818
4. (a) i. .
   ii. €392
   (b) €487
5. (a) €19417.48
   (b) $\frac{20000}{1.03^t}$
   (c) €358710.84
   (d) i. 0.2466%
   ii. $P(1.002466)^n$
   iii. €390.17
   (e) €618.35
6. (a) $A(1.04), A(1.04)^2, A(1.04)^3, A(1.04)^25$
   (b) $44.31174462 \times A$
   (c) $ 485199
   (d) i. Table on bottom of previous page
   ii. $485199\left(\frac{1.04}{1.0478}\right)^{n-1}$
   (e) $11.5m