

## Chapter 2: Fundamental concepts and techniques

### Answers to self test questions

1. Correct answers are:

- |  |       |
|--|-------|
| (a) A positive risk free interest rate                             | False |
| (b) Peoples' preference for present rather than future consumption | True  |
| (c) Productive investment opportunities                            | True  |
| (d) People's risk aversion   | False |

A positive risk free interest rate is a consequence of the time value of money, not a source.

2. (d)  $100 \times (1 + (0.04/2))^4 = 108.24$

3. (d)  $50 \times e^{2 \times 0.05} = 55.26$

4. (a) Increases with the compounding frequency

Compounding gives interest on interest, so more frequent compounding gives a higher effective annual rate.

5. (b)  $100 \times (1 + (0.08/4))^4 - 100 = 8.24$

6. (a)  $25/.06 = 416.67$

7. (d)  $50/(0.05 - 0.04) = 5000.00$

8. Correct answers are:

- |  |       |
|--|-------|
| (a) The accounting way of spreading the costs of long lived assets over time | True  |
| (b) The annual reduction in book value of fixed assets                       | True  |
| (c) A cost in bookkeeping terms but not a cash out-flow                      | True  |
| (d) A sudden drop in value because prices on the stock market change         | False |

9. (b) Yes, but only indirectly because it is tax deductible and reduces the tax bill

10. Correct answers are:

- |   |      |
|---|------|
| (a) Total assets = Equity + Liabilities   | True |
| (b) The sum of left hand side of the balance sheet is equal to the sum of the right hand side         | True |
| (c) The value of the firm's possessions is equal to the value of the claims against these possessions | True |

11. (a) Converted into cash within a short period of time

12. (a) The amount owed to the firm by its business partners

13. (b) The amount the firm owes to its business partners

14. (c) The positive balance of the above two
15. Correct answers are:
- (a) The capital supplied by the firm's owners True
  - (b) The capital supplied by the firm's managers False
  - (c) The claim of the shareholders against the firm's possessions True
  - (d) The difference in value between the firm's possessions and its outstanding liabilities True
16. (a) For accounting items that are short lived  
The difference between book and market value usually grows with time.
17. (d) The time value of money plus expected inflation plus a risk premium estimated from similar projects
18. Correct answers are:
- (a) Investment outlay False
  - (b) Depreciation True
  - (c) Irreversible past investments True
  - (d) Changes in net working capital False
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  - (b) Depreciation False
  - (c) Irreversible past investments False
  - (d) Changes in net working capital True
20. Correct answers are:
- (a) Cash flow reductions of other projects True
  - (b) Increased utilization of idle capacity False
  - (c) Depreciation of the assets in use False
  - (d) Cash flow increases of other projects True
21. Correct answers are:
- (a) It uses accounting returns instead of cash flows True
  - (b) It ignores that later returns are less valuable than earlier ones True
  - (c) It calculates a return for each year of the project's life False
  - (d) It does not use a market based required return rate True
22. Correct answers are:
- (a) It does not use discounted cash flows True
  - (b) It does not include all cash flows True
  - (c) It ignores the time value of money True
  - (d) It ignores the riskiness of cash flows True
23. Correct answers are:
- (a) It incorrectly accepts projects whose IRR is larger than the opportunity cost of capital False
  - (b) It only works for normal cash flow patterns (first out-, then inflows) True
  - (c) A project can have more than 1 internal rate of return True
  - (d) Its results are unreliable for mutually exclusive projects True
24. (a) Because each additional unit of a good gives less utility than its predecessor  
Risk aversion is a consequence of concave utility functions, not a cause.

25. Correct answers are:
- (a) Combinations of choices that give the same utility True
  - (b) The intersection of a fixed utility value with a 2-dimensional utility function True
  - (c) Instruments for rational economic decision making True
26. (b) Concave utility functions
27. Correct answers are:
- (a) The investment and consumption decision can be separated True
  - (b) It does not matter where the money comes from, only where it goes to True
  - (c) Managers do not have to know clients' utility functions to make investment decisions True
  - (d) Managers can use market data True
  - (e) Managers can use the rule: maximize net present value True
28. Correct answers are:
- (a) Generate funds for companies True
  - (b) Provide marketability and liquidity False
  - (c) Determine prices True
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- (a) Generate funds for companies False
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30. Correct answers are:
- (a) Provide access to financial markets, but do not buy or sell True
  - (b) Stand ready to buy and sell at quoted prices False
  - (c) Hold an inventory of shares to meet demand False
  - (d) Charge a fee (commission) True
  - (e) Receive the difference between bid and ask prices False
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- (a) Provide access to financial markets, but do not buy or sell False
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32. Correct answers are:
- (a) Means holding the shares True
  - (b) Profits from a price *increase* True
  - (c) Is usually for the long run True
  - (d) Requires a margin to be deposited False
33. Correct answers are:
- (a) Means owing the shares True
  - (b) Profits from a price *decrease* True
  - (c) Is usually for the long run False
  - (d) Requires a margin to be deposited True