Universidad de Barcelona

3rd course: Financial Management **_Professor: Altina Sebastián González_**

Exercises 1: The Financial Function and Concepts Review

1. Shareholders of a corporation may be, among others,
   a. individuals.
   b. individuals and pension funds.
   c. pension funds.
   d. individuals, pension funds, and insurance companies

2. Generally, a corporation is owned by its
   a. managers.
   b. board of directors and shareholders.
   c. shareholders.
   d. managers, board of directors, and shareholders.

3. A corporation, potentially, has infinite life because it
   a. is a legal entity.
   b. has the same ownership and management.
   c. has limited liability.
   d. is closely regulated.

4. Which of the following assets is tangible?
   a. ExxonMobil's corporate headquarters building
   b. Apple Inc.'s trademark
   c. Hewlett-Packard's most recent printer patent
   d. Microsoft's technical expertise

5. Which of the following types of assets are intangible?
   a. Production machinery
   b. Factories
   c. Trademarks
   d. Office equipment

6. A firm's investment decision is also called its
   a. financing decision.
   b. liquidity decision.
   c. capital budgeting decision.
   d. leasing decision.

7. Which of the following is not a financial asset?
   a. Common stock
   b. Bank loans
   c. Preferred stock
   d. Buildings

8. The following groups are some of the claimants to a firm's income stream
   a. shareholders and bondholders only.
   b. shareholders, bondholders, and employees only.
   c. shareholders, bondholders, employees, and management only.
   d. shareholders, bondholders, employees, management, and government

9. The financial goal of a corporation is to:
   a. maximize profits.
   b. maximize sales.
   ~~c.~~ maximize the value of the firm for the shareholders.
   d. maximize managers' benefits.

10. The firm's purchase of real assets is also referred to as the
   a. capital structure decision.
   b. CFO decision.
   c. financing decision.
   ~~d.~~ capital investment decision.

11. The sale of financial assets by a corporation is also referred to as the
   a. capital budgeting decision.
   b. CFO decision.
   ~~c.~~ financing decision.
   d. investment decision.

12. The choice of the proper mixture of debt and equity, used to finance a corporation, is also referred to as the
   a. capital budgeting decision.
   ~~b.~~ capital structure decision.
   c. investment decision.
   d. liquidity decision.

13. The present value of $100 expected two years from today at a discount rate of 6 percent is
   a. $112.36.
   b. $106.00.
   c. $100.00.
   ~~d.~~ $89.00.

14. If the present value of $250 expected one year from today is $200, what is the one-year discount rate?
   a. 10 percent
   b. 20 percent
   ~~c.~~ 25 percent
   d. 30 percent

15. Which of the following statements regarding the NPV rule and the rate of return rule is false?
   a. Accept a project if its NPV > 0.
   b. Reject a project if the NPV < 0.
   ~~c.~~ Accept a project if its rate of return > 0.
   d. Accept a project if its rate of return > opportunity cost of capital.

16. An initial investment of $500 produces a cash flow of $550 one year from today. Calculate the rate of return on the project.
   ~~a.~~ 10 percent
   b. 15 percent
   c. 20 percent
   d. 25 percent

17. According to the net present value rule, an investment in a project should be made if the
   a. net present value is greater than the cost of investment.
   b. net present value is greater than the present value of cash flows.
   ~~c.~~ net present value is positive.
   d. net present value is negative.

18. At an interest rate of 10 percent, which of the following sequences of cash flows should you prefer?

PROJECTS	YEAR 1	YEAR 2	YEAR 3
A	$500	$300	$100
B	$100	$300	$500
C	$300	$300	$300
D	Any of the above as they all add up to $900		

a. Option A
b. Option B
c. Option C
d. Option D

YOU CAN'T ADD DIFFERENT CASH-FLOWS

19. Which of the following statements regarding the net present value rule and the rate of return rule is false?
a. Accept a project if NPV > cost of investment.
b. Accept a project if NPV is positive.
c. Accept a project if return on investment exceeds the rate of return on an equivalent-risk investment in the financial market.
d. Reject a project if NPV is negative.

20. You would like to have enough money saved after your retirement such that you and your heirs can receive $100,000 per year in perpetuity. How much would you need to have saved at the time of your retirement in order to achieve this goal? (Assume that the perpetuity payments start one year after the date of your retirement. The annual interest rate is 12.5 percent.)
a. $1,000,000
b. $10,000,000
c. $800,000
d. $1,125,000

$$\frac{100000}{0.125} = 800000\ \$$$

21. An annuity is defined as a set of:
a. equal cash flows occurring at equal intervals of time for a specified period.
b. equal cash flows occurring at equal intervals of time forever.
c. unequal cash flows occurring at equal intervals of time forever.
d. unequal cash flows occurring at equal intervals of time for a specified period.

22. What is the present value of a six-year $5,000 per year annuity at a discount rate of 10 percent?
a. $21,776.30
b. $3,371.91
c. $16,760.78
d. $18,327.82

23. John House has taken a $250,000 mortgage on his house at an interest rate of 6 percent per year. If the mortgage calls for 20 equal annual payments, what is the amount of each payment?
a. $21,796.14
b. $10,500.00
c. $16,882.43
d. $24,327.18

$$250000 = a \cdot \frac{1-(1+0.06)^{-20}}{0.06}$$

24. John House has taken a 20-year $250,000 mortgage on his house at an interest rate of 6 percent per year. What is the remaining balance (or value) of the mortgage after the payment of the fifth annual installment?
   a. $128,958.41
   b. $211,689.53
   c. $141,019.50
   d. $248,719.21

25. Which of the following sentences is not true (false):
   a. The rate of return, discount rate, hurdle rate, and opportunity cost of capital all have the same meaning
   b. The rate of return on a safe investment is generally low and the rate of return on a risky investment is generally high.
   c. In the amortization of a mortgage loan with equal payments, the fraction of each payment devoted to interest steadily increases over time and the fraction devoted to reducing the loan balance decreases steadily.
   d. Generally, one should accept investments that offer rates of return in excess of their opportunity costs of capital.

YEAR	BALANCE	ANNUITY	i	AMORTI
1	250000	21796,14	15000	6796.14
2	243203.86	:	14592.23	7203.91
3	235999.95	:	14160.00	7636.14
4				
5				
6				
7				
8				
:				
20				