

Section 1: Multiple Choice Questions (60 marks, 3 marks for each question. Please select the best answer.)

1. Which of the following statements is generally not true for an investor who faces unlimited liability on an investment?
 - (A) The investor owns stock in the firm.
 - (B) The investor has no partners.
 - (C) The investor is subject to double taxation.
 - (D) The investor is responsible for managing the firm.

2. Which of the following is not typically considered a function of financial intermediaries?
 - (A) Providing a payment mechanism.
 - (B) Investing in real assets.
 - (C) Accumulating funds from smaller investors.
 - (D) Spreading or pooling risk among individuals.

3. Which of the following statements about net working capital (NWC) is correct?
 - (A) NWC is positive for all firms.
 - (B) As NWC decreases, potential liquidity increases.
 - (C) NWC excludes inventory, which is deemed illiquid.
 - (D) Decreases in NWC can increase the firm's risk.

4. Which of the following is the least effective measure of operating performance?
 - (A) ROC.
 - (B) ROA.
 - (C) ROE.
 - (D) All of these are equally ineffective measures of operating performance.

5. How much interest is earned in just the third year on a \$1,000 deposit that earns 7% interest compounded annually?
 - (A) \$70.00
 - (B) \$80.14
 - (C) \$105.62
 - (D) \$140.00

6. What price would you expect to pay for a stock with 13% required rate of return, 4% rate of dividend growth, and an annual dividend of \$2.50 which will be paid tomorrow?
 - (A) \$27.78
 - (B) \$30.28
 - (C) \$31.10
 - (D) \$31.39

7. A project with an IRR that is less than the opportunity cost of capital should be:
 - (A) Accepted for all project types.
 - (B) Accepted for all lending projects.
 - (C) Accepted for all borrowing projects.
 - (D) Rejected for all projects.

8. At current prices and a 13% cost of capital, a project's NPV is \$100,000. By what minimum amount must the initial cost of the project decrease (revenues will be unchanged) before you would wait 2 years to invest?
 - (A) \$21,685
 - (B) \$26,000
 - (C) \$27,690
 - (D) \$29,380

9. What is the maximum percentage of variable costs in relation to sales that a firm having a 30% tax rate could experience and still break even with \$5 million revenue, \$1 million fixed costs, and \$500,000 depreciation?
 - (A) 30%
 - (B) 70%
 - (C) 80%
 - (D) 90%

10. What is the book value per share of equity for a firm with \$1 million in net common equity, \$50,000 in authorized share capital, 25,000 shares issued, and 20,000 shares outstanding?
 - (A) \$38.00
 - (B) \$40.00
 - (C) \$47.50
 - (D) \$50.00

11. If a corporation's management, with its superior knowledge of proposed investments, considers a security issue to be underpriced, it may react by:
 - (A) Forgoing the security issuance and investment.
 - (B) Lowering the price of the existing shares to equal the new shares.
 - (C) Increasing the number of shares to be sold.
 - (D) Adopting shelf registration, which automatically raises the issue price.

12. What is the expected return on equity for a firm with a 14% expected return on assets that pays 9% on its debt, which totals 30% of assets? Ignore tax.
 - (A) 16.14%
 - (B) 17.00%
 - (C) 19.00%
 - (D) 25.67%

13. How much should an investor pay now for a stock expected to sell for \$30 one year from now if the stock offers a \$2 dividend, dividends are taxed at 40%, capital gains are taxed at 20%, and a 15% after-tax return is expected on the investment?
- (A) \$25.04
 - (B) \$26.53
 - (C) \$27.09
 - (D) \$27.50
14. Which of the following is not typically a characteristic of commercial paper borrowing?
- (A) Maturity is short-term.
 - (B) Banks are not the lenders.
 - (C) The loans are secured.
 - (D) Borrowers have high credit quality.
15. What happens to the implied interest rate on trade credit as the time interval between the discount period and the payment period is decreased?
- (A) The rate declines.
 - (B) The rate increases.
 - (C) The rate remains constant.
 - (D) It is impossible to predict without knowing the length of the discount period.
16. Which of the following is not a method of changing the management of a firm?
- (A) Proxy contest.
 - (B) Merger and acquisition.
 - (C) LBO.
 - (D) MBO.
17. The following information is provided to you:
- Spot exchange rate for Swiss franc = \$0.61/SFr
 - One year forward rate for Swiss franc = \$0.63/SFr
 - One year U.S. interest rate = 5%
- What is the 1-year interest rate for the Swiss franc?
- (A) 2.00%
 - (B) 1.67%
 - (C) 1.50%
 - (D) 1.33%
18. It is May 19 and you own a June, European call on ABC Corp. with an exercise price of \$50. The option trades at \$40 and ABC is trading at \$86. What should you do?
- (A) Exercise the option now and take the profits.
 - (B) Buy more options on ABC Corp.
 - (C) Sell your ABC stock before its price declines.
 - (D) Sit and wait until the June expiration.

19. The customary delivery procedure at the expiration of a commodity futures contract is:
- Delivering the commodity to the futures buyer.
 - Delivering the commodity to the futures exchange.
 - Offsetting the initial futures position and settling in cash.
 - Adding the profit or loss to the margin account and continuing to trade.
20. Regarding board size, researchers have found that:
- Smaller boards are associated with greater firm value and performance, since small groups make better decisions than larger groups.
 - Smaller boards are associated with lower firm value and performance, since small groups are more likely to be compromised by connections to management.
 - Larger boards are associated with greater firm value and performance, since larger boards tend to have directors with a more diverse range of backgrounds and talents.
 - Larger boards are associated with lower firm value and performance, since larger groups are more likely to be compromised by connections to management.

Section 2: Problems (40 marks. Show your work for full credit and for part marks.)

1. (This question is worth 15 marks in total.) XYZ Corp. has the following financial statements. Assume that XYZ's assets are proportional to its sales.

Income Statement, 2014	
Sales	\$950
Costs	\$250
Interest	\$50
Taxes	\$150
Net Income	\$500

Balance Sheet, Year-End					
	2013	2014		2013	2014
Assets	\$2,700	\$3,000	Debt	\$900	\$1,000
			Equity	\$1,800	\$2,000
Total	\$2,700	\$3,000	Total	\$2,700	\$3,000

- Find XYZ's required external funds if it maintains a dividend payout ratio of 70% and plans a growth rate of 15% in 2015. Assume that XYZ has no spare capacity.
- If XYZ chooses not to issue new shares of stock, what variable must be the balancing item? What will its value be?
- Now suppose that the firm plans instead to increase long-term debt only to \$1,100 and does not wish to issue any new shares of stock. Why must the dividend payment now be the balancing item? What will its value be?

2. *(This question is worth 10 marks in total.)* Compare the price sensitivity to changes in interest rates for the following bonds: A five-year and a ten-year bond, both with a 7% annual coupon. Both bonds currently sell at par. The face value of each bond is \$1,000.
 - (A) How much will the price of each bond change if interest rates increase to 8%?
 - (B) Why is there a difference in the price change?

3. *(This question is worth 5 marks.)* A bond that pays coupons annually is issued with a coupon rate of 7%, maturity of 5 years, and a yield to maturity of 4%. The face value of the bond is \$1,000. What rate of return will be earned by an investor who purchases the bond and holds it for 1 year if the bond's yield to maturity at the end of the year is 6%?

4. *(This question is worth 10 marks in total.)* DEF Corp. is proposing to go public, and you are going to estimate the value of its equity. The management team plans to maintain debt at 30% of the company's present value, and you believe that at this capital structure the company's debtholders will demand a return of 6% and stockholders will require 11%.

The company is forecasting that next year's operating cash flow (depreciation plus profit after tax at 40%) will be \$68 million and that investment expenditures will be \$30 million. Thereafter, operating cash flows and investment expenditures are forecast to grow by 4% a year.

 - (A) What is the total value of DEF Corp.?
 - (B) What is the value of the company's equity?

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系所別：財務金融學系

科目：財務管理

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Present Value of \$1:

Number of Years	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355
5	0.9515	0.9057	0.8626	0.8219	0.7836	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220
11	0.8963	0.8049	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037

Present Value of an Ordinary Annuity of \$1

Number of Years	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373
5	4.8534	4.7135	4.5797	4.4518	4.3296	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282
10	9.4713	8.9829	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502
11	10.3678	9.7868	9.2526	8.7605	8.3084	7.8960	7.4987	7.1390	6.8052	6.4951	6.2055	5.9377
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5381	7.1607	6.8137	6.4924	6.1944
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235
14	13.0037	12.1082	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9919	6.6282
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3125	7.8237	7.3792	6.9740
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0581	9.3719	8.7556	8.2014	7.7016	7.2497
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.8393	7.3658
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.9633	7.4694