Section 1: Multiple Choice Questions (70 marks, 3.5 marks for each question. Please select the best answer.)

1. In which of the following organizations would agency problems be *least* likely to occur?
   (A) A sole proprietorship.
   (B) A partnership.
   (C) A corporation.
   (D) A closely held corporation.

2. Which of the following financial intermediaries has shown a preference for investing in *long-term* financial assets?
   (A) Commercial banks.
   (B) Insurance companies.
   (C) Finance companies.
   (D) Savings banks.

3. Which of the following is *least* liquid?
   (A) Foreign currency.
   (B) U.S. Treasury bonds.
   (C) Rare coins.
   (D) Savings deposit.

4. Which of the following statements is true for a corporation with $1 million market value of equity, $2 million market value of assets, and 1,000 shares of outstanding stock?
   (A) Market value of liabilities exceeds book value of liabilities.
   (B) Market value of liabilities equals $1 million.
   (C) Book value per share equals $1,000.
   (D) Market value per share equals $2,000.

5. Approximately how long must one wait (to the nearest year) for an initial investment of $1,000 to double in value if the investment earns 4% compounded annually?
   (A) 10 years
   (B) 14 years
   (C) 18 years
   (D) 22 years

6. How much more would you be willing to pay today for an investment offering $10,000 four years from today rather than five years from today? Your discount rate is 9%.
   (A) $544.47
   (B) $584.94
   (C) $622.18
   (D) $651.29

7. A bond paying annual coupons at a coupon rate of 6% experiences a change in price of 6% when interest rates suddenly decrease by 1%. A similar bond of the same maturity, in the same risk class, paying annual coupons at a coupon rate of 4% will experience a change in price of:
   (A) Less than 6%.
   (B) Exactly 6%.
   (C) More than 6%.
   (D) More information is needed to determine the answer.

8. Company DEF pays out all of its earnings as dividends. It will pay its next $12 per share dividend in a year. The discount rate is 12%. Let the price-earnings ratio for the company be X. Which of the following statements about X is correct?
   (A) $X < 10$
   (B) $10 \le X < 12$
   (C) $12 \le X < 15$
   (D) $X \ge 15$

9. Which of the following statements is true?
   (A) For many firms the limits on capital funds are "soft." By this we mean that the capital rationing is not imposed by investors.
   (B) Sunk costs influence capital budgeting decisions only when the sunk costs exceed future cash inflows.
   (C) Opportunity costs are evaluated for investment decisions at their historical (that is, book) cost.
   (D) Discounting real cash flows with real interest rates gives an overly optimistic idea of a project's value.

10. Company PQR is installing a machine system in its factory. The system has a cost of $350,000, has an eight year useful life, requires $120,000 in pretax annual operating costs, and will have a salvage value of $50,000. Assume the system is depreciated using straight-line depreciation for tax purposes. At the end of the system's useful life, Company PQR will need to replace the system. The company's tax rate is 30% and the appropriate cost of capital is 10%. The equivalent annual cost, in dollars, of Company PQR using this system is closest to:
    (A) $100,000
    (B) $120,000
    (C) $140,000
    (D) $160,000

11. U.S. investments with a one-year maturity can earn 6% and Swiss one-year investments can earn 3%. If the spot exchange rate is CHF1.6/$, which of the following one-year forward exchange rates would convince you to invest in Switzerland?
    (A) CHF1.55/$
    (B) CHF1.60/$
    (C) CHF1.65/$
    (D) CHF1.70/$

12. Of the following four put options that can be purchased on a stock, which would you expect to have the highest price?
    (A) September 2014 put; $65 exercise price
    (B) September 2014 put; $75 exercise price
    (C) December 2014 put; $65 exercise price
    (D) December 2014 put; $75 exercise price

13. How much will a firm receive in net funding from a firm commitment underwriting of 250,000 shares priced to the public at $40 per share if a 10% underwriting spread has been added to the price paid by the underwriter? Additionally, the firm pays $600,000 in legal fees.
    (A) $8,400,000
    (B) $8,460,000
    (C) $8,490,000
    (D) $8,545,455

14. When securities are issued under a rights issue:
    (A) Existing shareholders have the opportunity to expand their holdings.
    (B) Shares are offered to the public at a discount.
    (C) The existing shares will increase in price.
    (D) Current shareholders have the right to resell their stock to the issuer.

15. The "winner's curse" is a reminder that:
    (A) Successful bidders may often overpay for an object.
    (B) Underwriters charge excessive fees.
    (C) Stocks are much riskier than bonds.
    (D) Underpricing an issue is a cost to existing owners.

16. With a tax rate of 35%, calculate the WACC for a firm that pays 10% on its debt, requires an 18% rate of return on its equity, and finances 45% of assets with debt.
    (A) 12.83%
    (B) 14.00%
    (C) 14.40%
    (D) 18.20%

17. An investor owns 5,000 shares, which is 1% of a corporation's outstanding stock before a stock repurchase. The investor did not sell any of his stock during the 25,000 share repurchase. Which of the following statements is correct?
    (A) The investor still owns 1% of the corporation.
    (B) The stock's price is likely to drop by 5%.
    (C) The investor owns more than 1% of the corporation.
    (D) The investor now has 5,250 shares.

18. Which of the following might indicate the correct choice of a plug-in figure (balancing item) if a financial plan shows sources of funds to be $100,000 and uses of funds to be $90,000?
    (A) External debt increases by $10,000.
    (B) Dividend payment decreases by $10,000.
    (C) Cash balance increases by $10,000.
    (D) The capital budget decreases by $10,000.

19. A credit card account that charges interest at the rate of 1.25% per month would have an annually compounded rate of _____ and an APR of _____.
    (A) 16.08%; 15.00%
    (B) 14.55%; 16.08%
    (C) 12.68%; 15.00%
    (D) 15.00%; 14.55%

20. What is the expected yield on the market portfolio at a time when Treasury bills yield 6% and a stock with a beta of 1.4 is expected to yield 18%?
    (A) 8.6%
    (B) 10.8%
    (C) 12.0%
    (D) 14.6%

Section 2: Problems (30 marks. Show your work for full credit and for part marks.)

1. *(This question is worth 7 marks in total.)* Consider the following yields-to-maturity (YTMs) on Company XYZ's bonds you observe today, all of which have a face value of $1000, a coupon rate of 7% paid on an annual basis and have just paid out their annual coupons:

Maturity (years)	2	5	8
YTM	8%	7%	6%

   a) Suppose you purchase today, from the table above, Company XYZ's bond that has 8 years remaining to maturity. Exactly one year later, the yield to maturity on the bond you own has risen to 9%. If you sell the bond exactly one year after purchasing the bond today, what will be your total rate of return over the one year period?

   b) Some of the bonds that Company XYZ has issued are callable—the bonds have a call option embedded in them. Describe under what conditions and by whom the call option would be exercised.

2. *(This question is worth 9 marks in total.)* Company ABC has just completed a $150 million dividend payment to its shareholders. The company makes dividend payments once per year, and its dividends are expected to grow at a rate of 5% per year for each of the next 3 years. After the 3 years, the company will be operating in a declining industry, and management expects it will have to reduce dividends by a rate of 7% per year indefinitely/forever. The company has 25 million shares outstanding, and investors require a 9% return on ABC's stock.
   a) What is the expected dividend per share the company will pay out one year from today?

b) What is the company's share price today?

c) You're not sure you wish to invest in Company ABC, and in fact you haven't even decided if you generally wish to invest in stock or bonds. Discuss the advantages and disadvantages of investing in common shares versus bonds.

3. *(This question is worth 8 marks in total.)*
   a) Discuss how betas are measured for individual stocks.

   b) How can a manager calculate the opportunity cost of capital for a project?

4. *(This question is worth 6 marks in total.)* Discuss what it means for a futures contract to be "marked to market." Please provide an example assuming that a 5,000 bushel wheat contract at a price of $3.90 per bushel is purchased. In your example, assume that the price of wheat moves to $3.92 at the end of the next day, and moves to $3.89 at the end of the following day.

Number of Years	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2321	1.2544
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.3676	1.4049
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5181	1.5735
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.6851	1.7623
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.8704	1.9738
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.0762	2.2107
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.3045	2.4760
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.5580	2.7731
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	2.8394	3.1058
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.1518	3.4785
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.4985	3.8960
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	3.8833	4.3635
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.3104	4.8871
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	4.7846	5.4736
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	5.3109	6.1304
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	5.8951	6.8660
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	6.5436	7.6900
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	7.2633	8.6128
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	8.0623	9.6463

Future 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	0.7835	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	0.8043	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 $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	4.3295	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	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377
12	11.2551	10.5753	9.9540	9.3851	8.8633	9.3838	7.9427	7.5361	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	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	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	8.3126	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	10.0591	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

Present Value of an Ordinary Annuity of $1