CMA APRIL, 2019 EXAMINATION
PROFESSIONAL LEVEL-IV
SUBJECT: 401. FINANCIAL MANAGEMENT

Time: Three hours | Full Marks: 100

- ❖ All questions are to be attempted.
- ❖ Show computations, where necessary.
- ❖ Answer must be brief, relevant, neat and clean.
- ❖ Start answering each question from a fresh sheet.

Q. No. 1

(a) Minicorp is a mining company. Its mission is to 'maximize profits for shareholders whilst recognizing its responsibilities to society'. It is considering a mining opportunity abroad in a remote country area where there is widespread poverty. The mining work will destroy local vegetation and may pollute the immediate water supply for some years to come. The company directors believe that permission for the mining work is likely to be granted by the government as there are few people or animals living in the area and the company will be providing much needed jobs.

Identify the likely stakeholders in the company's decision. Consider their possible objectives and describe three likely conflicts in those objectives.

(b) Discuss the purposes and limitations of financial statement analysis.

(c) Maggie's Gold Coins, Inc. is considering shortening its credit period from 30 days to 20 days and believes, as a result of this change, its average collection period will decrease from 36 days to 30 days. Bad debt expenses are also expected to decrease from 1.2 percent to 0.8 percent of sales. The firm is currently selling 300,000 units but believes as a result of the change, sales will decline to 275,000 units. On 300,000 units, sales revenue is $4,200,000, variable costs total $3,300,000, and fixed costs are $300,000. The firm has a required return on similar-risk investments of 15 percent. Evaluate this proposed change and make a recommendation to the firm.

(d) At the end of 2015, Long Life Light Bulb Corporation announced a gross profit of $1 million. The company has also established that over the course of this year, it has incurred $345,000 in operating expenses and $125,000 in interest expenses. The company is subject to a 30% tax rate and has declared $57,000 of total preferred stock dividends.

(i) Calculate the earnings available for common stockholders.

(ii) Compute the increased retained earnings for 2015 if the company were to declare a $4.25 common stock dividend. The company has 15,000 shares of common stock outstanding.

[Marks: (4+4+6+6) = 20]

Q. No. 2

(a) "In the Modigliani and Miller's setting of perfect capital markets, firms could use any combination of debt and equity to finance their investments without changing the value of the firm". Do you agree with this statement? Explain with examples.

(b) d'Anconia Copper is an all-equity firm with 60 million shares outstanding, which are currently trading at $20 per share. Last month, d'Anconia announced that it will change its capital structure by issuing $400 million in debt. The $200 million raised by this issue, plus another $200 million in cash that d'Anconia already has, will be used to repurchase existing shares of stock. Assume that capital markets are perfect.

(i) What is the market capitalization of d'Anconia Copper before this transaction takes place?

(ii) What is the market capitalization of d'Anconia Copper after this transaction takes place?

(iii) How many number of shares that d'Anconia Copper will repurchase at the conclusion of this transaction?

(iv) How many number of shares that d'Anconia Copper will have outstanding at the conclusion of this transaction?

(v) Determine the value of a share of d'Anconia Copper at the conclusion of this transaction.
(vi) Suppose you are a shareholder in d'Anconia Copper holding 300 shares, and you disagree with the decision to lever the firm. How can you undo the effect of this decision?

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Q. No. 2 (cont'd...)

(c) The Wyatt Inc. has the following three divisions. All relevant information for the divisions has been given below:

Division	Asset Beta	Next Period's Expected Free Cash Flow ($m)	Expected Growth Rate
Oil Exploration	1.4	450	4.0%
Oil Refining	1.1	525	2.5%
Gas & Convenience Stores	0.8	600	3.0%

The risk-free rate of interest is 3% and the market risk premium is 5%.
You are required to calculate:
(i) the cost of capital for the oil exploration division and the oil refining division.
(ii) the value of the oil exploration division and the gas and convenience store division.
(iii) the overall value of The Wyatt Inc. (in $ millions)
(iv) the overall asset beta for The Wyatt Inc.
(v) the overall cost of capital for The Wyatt Inc.

[Marks: (4+6+10) = 20]

Q. No. 3

(a) "For leases in which the lessor retains a substantial interest in the asset's residual value, the lessee has more of an incentive to take proper care of an asset that is leased rather than purchased". Do you agree with this statement? Explain your answer with proper justifications.

(b) Nielson Motors (NM) is a newly public firm with 25 million shares outstanding. You are doing a valuation analysis of Nielson and you estimate its free cash flow in the coming year to be $40 million. You expect the firm's free cash flows to grow by 4% per year in subsequent years. Because the firm has only been listed on the stock exchange for a short time, you do not have an accurate assessment of Nielson's equity beta. However, you do have the following data for another firm in the same industry:

Equity Beta	Debt Beta	Debt-Equity Ratio
1.8	0.4	1.5

Nielson has a much lower debt-equity ratio of .5, which is expected to remain stable, and Nielson's debt is risk free. Nielson's corporate tax rate is 40%, the risk-free rate is 5%, and the expected return on the market portfolio is 10%.
You are required to calculate (i) Nielson's estimated equity beta, (ii) Nielson's equity cost of capital, and (iii) Nielson's share price.

(c) Electronic Gaming Incorporated (EGI) is a firm with no debt and its 20 million shares are currently trading for $16 per share. Based on the prospects for EGI's new hand held video game, management feels the true value of the firm is $20 per share. Management believes that the share price will reflect this higher value after the video game is released next fall. EGI has already announced plans to raise $100 million from investors to build a new factory.
(i) Assume that EGI decides to raise the $100 million through the issuance of new shares prior to the release of the new video game. Determine the number of new shares that EGI will issue.
(ii) Assume that EGI decides to wait until after the release of the new video game before they raise the $100 million through the issuance of new shares. Calculate the number of new shares that EGI will issue.
(iii) Assume that EGI decides to raise the $100 million through the issuance of new shares prior to the release of the new video game. Determine the EGI's share price

following the release of the new video game.

(iv) Assume that EGI decides to wait until after the release of the new video game before they raise the $100 million through the issuance of new shares. Calculate the EGI's share price following the release of the new video game.

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Q. No. 3 (cont'd...)

(d) Bessey Aviation is considering leasing or purchasing a small aircraft to transport executives between manufacturing facilities and the main administrative headquarters. The firm is in the 40 percent tax bracket and its after-tax cost of debt is 7 percent. The estimated after-tax cash flows for the lease and purchase alternatives are given below:

End of Year	Cash Flows (after-tax)	
	Lease	Purchase
1	-64,329	-68,454
2	-64,329	-59,110
3	-64,329	-63,596
4	-64,329	-66,633
5	64,329	30,056

(i) Given the above cash flows for each alternative, calculate the present value of the after-tax cash flows using the after-tax cost of debt for each alternative.

(ii) Which alternative do you recommend? Why?

[Marks: (3+9+4+4) = 20]

Q. No. 4

(a) "If we plot individual securities according to their expected return and beta, the CAPM implies that they should all fall along the CML". Do you agree with this statement? Explain the characteristic of CML.

(b) Assume that the CAPM is a good description of stock price returns. The market expected return is 8% with 12% volatility and the risk-free rate is 3%. New news arrives that does not change any of these numbers, but it does change the expected returns of the following stocks:

Stock	**Expected Return**	**Volatility**	**Beta**
Taggart Transcontinental	8%	28%	1.2
Rearden Metal	13%	40%	1.7
Wyatt Oil	7%	20%	0.8
Nielson Motors	10%	32%	1.3

(i) Calculate the expected alpha (α_i) for all four stocks as mentioned above.

(ii) Which of the stocks represent either buying and/or selling opportunities?

(c) Hayley's Optical has a stockholders' equity account as shown below. The firm's common stock currently sells for $20 per share.

Preferred Stock	$ 500,000
Common stock (2,000,000 shares @ $1 par)	2,000,000
Paid-in capital in excess of par	10,000,000
Retained earnings	11,600,000
Total stockholders' equity	$24,100,000

(i) What is the maximum dividend per share Hayley's Optical can pay? (Assume capital includes all paid-in capital.)

(ii) Recast the partial balance sheet (the stockholders' equity accounts) to show independently

(1) a 2-for-1 stock split of the common stock.

(2) a cash dividend of $1.50 per share.

(3) a stock dividend of 5% on the common stock.

(iii) At what price would you expect Hayley's Optical stock to sell after

(1) the stock split?
(2) the stock dividend?

[Marks: (5+5+10] = 20]

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Q. No. 5

(a) Luther Industries, a U.S. Corporation, is considering a new project located in Great Britain. The expected free cash flows from the project are detailed below:

Year	Free Cash Flow (£ millions)
0	-20
1	10
2	14
3	18

You know that the spot exchange rate is $ = 1.8862/£. In addition, the risk-free interest rate on dollars and pounds is 5.4% and 4.6% respectively. Assume that these markets are internationally integrated and the uncertainty in the free cash flow is not correlated with uncertainty in the exchange rate. You have determined that the dollar WACC for these cash flows is 10.2%.

(i) Calculate the pound denominated cost of capital for Luther's project.

(ii) What is the pound present value of the project?

(iii) What is the dollar present value of the project?

(b) Martin Manufacturing has earnings per share (EPS) of $3.00, 5 million shares outstanding, and a share price of $32. Martin is considering buying Luther Industries, which has earnings per share of $2.50, 2 million shares outstanding, and a share price of $20. Martin will pay for Luther by issuing new shares. There are no expected synergies from the transaction.

(i) If Martin pays no premium to acquire Luther, what will the earnings per share be after the merger?

(ii) Assume that Martin pays no premium to acquire Luther. Calculate Martin's price-earnings (P/E) ratio both pre and post merger.

(c) Nico Yong is considering the purchase of 100 shares of Cisco Systems stock at $22 per share. Because the economy is picking up, Nico believes the demand for Oracle's router systems will increase substantially causing the price of Cisco's shares to increase to $30 per share. As an alternative, Nico is considering the purchase of a call option for 100 shares of Cisco at with an exercise price of $25. This 180 day option will cost Nico $200. Assume no brokerage costs or dividends.

(i) What will Nico's profit be on the stock transaction if he decides to buy the stock and its price does increase to $30 per share and he sells?

(ii) How much will Nico earn on the option transaction if he purchases the option and the underlying stock price rises to $30?

(iii) How much must the stock price rise for Nico to break even on the option transaction?

(iv) Based on parts (i) and (ii) above, what should Nico do? Explain.

[Marks: (9+6+5) = 20]

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