ICMAB
THE INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF BANGLADESH

CMA JUNE, 2020 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) Julian's Sports Equipment must decide whether to obtain $1,000,000 of financing by selling common stock at its current price of $40 per share or selling convertible bonds. The firm currently has 250,000 shares of common stock outstanding. Convertible bonds can be sold for their $1,000 par value and would be convertible at $45. The firm expects its earnings available to common stockholders to be $700,000 each year over the next several years.

(i) Calculate the number of shares the firm would need to sell to raise the $1,000,000.
(ii) Calculate the earnings per share resulting from the sale of common stock.
(iii) Calculate the number of shares outstanding once all bonds have been converted.
(iv) Calculate the earnings per share associated with the bond financing after conversion.
(v) Which of the financing alternatives would you recommend the company adopt? Why?

(b) Tangshan Mining Company must choose its optimal capital structure. Currently, the firm has a 40 percent debt ratio and the firm expects to generate a dividend next year of $4.89 per share and dividends are expected to grow at a constant rate of 5 percent for the foreseeable future. Stockholders currently require a 10.89 percent return on their investment. Tangshan Mining is considering changing its capital structure if it would benefit shareholders. The firm estimates that if it increases the debt ratio to 50 percent, it will increase its expected dividend to $5.24 per share. Because of the additional leverage, dividend growth is expected to increase to 6 percent and this growth will be sustained indefinitely. However, because of the added risk, the required return demanded by stockholders will increase to 11.34 percent.

(i) What is the value per share for Tangshan Mining under the current capital structure?
(ii) What is the value per share for Tangshan Mining under the proposed capital structure?
(iii) Should Tangshan Mining make the capital structure change? Explain.

(c) A firm has determined its optimal capital structure, which is composed of the following sources and target market value proportions:

Source of Capital	Target Market Proportions
Long-term debt	30%
Preferred stock	5
Common stock equity	65

Debt: The firm can sell a 20-year, $1,000 par value, 9 percent bond for $980. A flotation cost of 2 percent of the face value would be required in addition to the discount of $20.

Preferred Stock: The firm has determined it can issue preferred stock at $65 per share par value. The stock will pay an $8.00 annual dividend. The cost of issuing and selling the stock is $3 per share.

Common Stock: The firm's common stock is currently selling for $40 per share. The dividend expected to be paid at the end of the coming year is $5.07. Its dividend payments have been growing at a constant rate for the last five years. Five years ago, the dividend was $3.45. It is expected that to sell, a new common stock issue must be underpriced at $1 per share and the firm must pay $1 per share in flotation costs. Additionally, the firm's marginal tax rate is 40 percent.

Calculate the firm's weighted average cost of capital assuming the firm has exhausted all retained earnings.

[Marks: (6+7+7) = 20]

Q. No. 2

(a) Tangshan Mining Company has released the following information.

Earnings available to common stockholders	$5,000,000
Number of shares of common stock outstanding	1,000,000
Market price per share	$50
Retained earnings	11,600,000

(i) What are Tangshan Mining's current earnings per share?

(ii) What is Tangshan Mining's current P/E ratio?

(iii) Tangshan Mining wants to use half of its earnings either to pay shareholders dividends or to repurchase shares for inclusion in the firm's employee stock ownership plan. If the firm pays a cash dividend, what will be the dividend per share received by existing shareholders?

(iv) Instead of paying the cash dividend, what if the firm uses half of its earnings to pay $55 per share to repurchase the shares, what will be the firm's new EPS? What should be the firm's new share price?

(v) Compare the impact of a stock dividend and stock repurchase on shareholder wealth.

(b) 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: (10+10) = 20]

Q. No. 3

(a) XYZ Company engaged in engineering products which it sells to wholesale distributors. The Company just has passed the COVID 19 pandemic. Recently its sale has begun to rise rapidly due to economic recovery. However, it is concerned about its liquidity position and is looking at ways of improving cash flow.

XYZ's sales are Tk. 16 million per annum, and average receivables are Tk. 3.3 million (representing about 75 days of sales). One way of speeding up collection from receivables is to use a factor.

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

Required:

Determine the relative costs and benefits of using the factor in each of the following scenarios.

(i) The factor will operate on a service-only basis in administering and collecting payment from XYZ's customers. This is expected to generate administrative savings of Tk. 100,000 each year.

The factor has undertaken to pay outstanding debts after 45 days, regardless of whether the customers have actually paid or not. The factor will make a service charge of 1.75% of XYZ's turnover. XYZ can borrow at an interest rate of 8% per annum.

(ii) It is now considering a factoring arrangement with a different factor where 80% of the book value of invoices is paid immediately, with finance costs charged on the advance at 10% per annum.

Suppose that this factor will charge 1% of sales as their fee for managing the sales ledger, that there will be administrative savings of Tk.100,000 as before, but that outstanding balances will be paid after 75 days (i.e., there is no change in the typical payment pattern by customers this time).

(b) The common stocks of Zoom Company and Meet Inc. have expected returns of 15% and 20%, respectively, while the standard deviations are 20% and 40%. The expected correlation coefficient between the two stocks is 0.36. What is the expected value of return and standard deviation of a portfolio consisting of (a) 40% Zoom Company and 60% Meet Inc.? (b) 40% Meet Inc. and 60% Zoom?

[Marks: (10+10) = 20]

Q. No. 4

(a) Economic breakthroughs are needed for the safeguard of coming recessions. As a Cost Accountant, how could you trade-off between costs savings and the future investment?

(b) Torstein Torque and Gear Company has 7.4 million in long term debt having the following schedule.

Particulars	Amount(in thousands)
8% serial bonds, payable Tk. 100,000 in principal annually	2,400
10% first mortgage bonds, payable Tk. 150,000 in principal annually	3,000
12% Subordinated debentures, interest only until maturity in 10 years	2,000
Total	7,400

Torstein's common stock has a book value of Tk. 8.3 million and a market value of Tk. 6 million. The corporate tax rate is 30%. Torstein is in a cyclical business. Its expected EBIT is Tk. 2 million with a standard deviation of Tk. 1.5 million. The average debt-to-equity ratio of other companies in the industry is 0.47.

(i) Determine the times interest earned and the debt-service coverage of the company at the expected EBIT

(ii) What are the probabilities that these two ratios will go below one-to-one?

(iii) Does Torstein have too much debt? Explain.

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

Q. No. 5

(a) A U.S-based MNC has a subsidiary in China where the local currency is the Renminbi (RMB). The balance sheets and income statements of the subsidiary are presented in the table below. On December 31, 2014, the exchange rate was 8.27 RMB/US$. Assume the local currency figures in the statement below remain the same on December 31, 2015. Calculate the U.S. dollar translated figures for the two ending time periods assuming that between December 31, 2014 and December 31, 2015, the Chinese government revalues (appreciates) the RMB by 20 percent.

Translation of Income Statement

	December 31, 2014		December 31, 2015
	RMB	US$	US$
Sales	1,800,000		
Cost of Goods Sold	1,650,000		
Operating Profits	150,000		

Translation of Balance Sheet

	December 31, 2014		December 31, 2015
Assets	RMB	US$	US$
Cash	24,000		
Inventory	180,000		
Plant and Equipment	96,000		
Total	300,000		
Liabilities and Stockholders Equity			
Debt	144,000		
Paid in Capital	120,000		
Retained Earnings	36,000		
Total	300,000		

(b) A multinational company has two subsidiaries, one in U.K (local currency, Pound Sterling) and the other in Germany (local currency, Euro). Proforma statements of operations indicate the following short-term financial needs for each subsidiary (in equivalent U.S. dollars): U.K: $25 million excess cash to be invested (lent); Germany: $10 million funds to be raised (borrowed)

The following financial data is also available:

	Currency		
Item	U.S. Dollars	Pound Sterling	Euro
Spot exchange rates		0.7418/U.S.$	2.0138/U.S.$
Forecast %		+1%	−1.5%
Interest rates			
Nominal Euromarket	7.5%	6%	5%
Domestic	6.5	6.25	5.5
Effective			
Euromarket	7.5%		
Domestic	6.5		

(i) Determine the effective rates of interest for Irish pound and Deutsche mark in both the Euromarket and the domestic market.

(ii) Where should the funds be invested?

(iii) Where should the funds be raised?

Q. No. 5(cont'd...)

(c) Jia's Oven Manufacturing is evaluating the acquisition of Cuisinaire Kitchen Appliance Co. Cuisinaire has a loss carry forward of $1.5 million which resulted from earlier operations. Jia's Oven can purchase Cuisinaire for $1.8 million and liquidate the assets for $1.3 million. Jia's Oven expects earnings before taxes in the five years following the acquisition to be as follows:

Year	Earnings before Taxes
1	$108,000
2	288,000
3	324,000
4	425,000
5	425,000

(These earnings are assumed to fall within the annual limit legally allowed for application of the tax loss carry forward resulting from the proposed acquisition.) Jia's Oven is in the 40 percent tax bracket and has a cost of capital of 17 percent.

(i) What is the tax advantage of the acquisition each year for Jia's Oven?

(ii) What is the maximum cash price Jia's Oven would be willing to pay for Cuisinaire?

(iii) Do you recommend the acquisition? Why or why not?

[Marks: (6+7+7) = 20]

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