

FINANCIAL MANAGEMENT

March-April 2023

Time allowed- 3:30 hours

Total marks- 100

[N.B. - The figures in the margin indicate full marks. Questions must be answered in English. Examiner will take account of the quality of language and of the manner in which the answers are presented. Different parts, if any, of the same question must be answered in one place in order of sequence.]

Marks

1. a) Karnofuli Ltd., a market leader in the cement industry and a listed Company, has been approached to supply cement for the construction of a mega project. The contract will last for 5 years. The following data was collected from Karnofuli Ltd.'s most recently published financial statements.

	BDT '000
Equity Shares (10,000,000 shares)	350,000
14% Preference shares	250,000
12% (Bonds Irredeemable)	<u>200,000</u>
Total	<u>800,000</u>

Estimated investment for financing this project will cost BDT 100 million. 12% Irredeemable bonds issued at the current market rate would be used to raise the entire amount. Preference share and bond prices will not change.

The market risk premium for the cement sector is 2.5%, the bond rate for the Bangladesh government for same tenure (5 years) is 8%, and Karnofuli Ltd. has a beta of 1.2. The current market price for Irredeemable Bonds of BDT 1,000 nominal value is BDT 920.

The dividend payment policy of Karnofuli Ltd. is to pay a constant dividend, and this policy will not change in the near future. The most recent dividend was BDT 5 per share. Karnofuli Ltd. pays tax at 25% rate.

During the last board meeting, Chairman of the Board said that we should reform our Company's capital through share buy-back as gearing level is too low and cost of equity is higher than cost of debt.

Requirements:

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| i) Determine the cost of equity, current share price and current market capitalization of Karnofuli Ltd. | 6 |
| ii) Calculate the Weighted Average Cost of Capital (WACC) of Karnofuli Ltd. both before and after undertaking of this project. | 6 |
| iii) State the circumstances when a company may opt for "share buy-back". | 2 |
| iv) Recommend whether the "share buy-back" is a good choice for Karnofuli Limited. Justify stating the factors that need to be considered for buying back the shares. | 6 |
- b) Clear Glass Company sells glass containers. It reported total sales of Tk. 1,580,000, with 60% of the sales on credit. It takes 60 days to collect accounts receivable. The selling price is Taka 20 per container while the variable cost is Taka 15 per container. The board is currently investigating a change in the collection of accounts receivable that is expected to result in a 20% increase in credit sales and a 10% increase in the average collection period. Bad debts will also increase, from 2% to 4% of sales. The firm's opportunity cost on its investment in accounts receivable is 12%. (Note: Use a 365-day year.)

Requirements:

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| i) Calculate bad debts in Taka for the current and proposed plans. | 3 |
| ii) Calculate the incremental bad debts to Clear Glass Company. | 1 |
| iii) Would you recommend the proposed plan? Why? | 3 |
- c) Modigliani and Miller (MM) on the one hand and Gordon and Lintner (GL) on the other have expressed strong views regarding the effect of dividend policy on a firm's cost of capital and value.

Requirements:

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| i) In essence, what are the MM and GL views regarding the effect of dividend policy on the cost of capital and stock prices? | 2 |
| ii) How does the tax preference theory differ from the views of MM and GL? | 2 |

- iii) How could MM use the information content, or signaling, hypothesis to counter their opponents' arguments? If you were debating MM, how would you counter them? 2
- iv) How could MM use the clientele effect concept to counter their opponents' arguments? If you were debating MM, how would you counter them? 2

2. a) Padma Limited imports raw materials from USA and Europe. In order to hedge for next 6 months, it enters into 2 option contracts with New Bank Limited.

The details of the option contracts are as follows:

	Details	Transaction Amount	Strike Price/ Exchange Rate	Spot Rate on Maturity Date	Option premium
OPTION A	Bought call option to buy USD against BDT	US\$ 75m	BDT 107/ USD	BDT 105/ USD	3.00%
OPTION B	Bought call option to buy Euro against BDT	EUR 65m	BDT 110/ EUR	BDT 112/ EUR	3.5%

Requirements:

- i) Advice Padma Limited on whether to exercise Option A or Option B on the basis of its profit/loss. 10
- ii) Calculate overall gain/ loss of the hedge. 2
- b) Bangla Metal Ltd. got a large contract with a European Company. The Company will pay in Euro and there will be a credit period of 3 months. Being an accountant, you are worried about this payment. You are not worried about credit risk rather than for foreign exchange risk due to volatile nature of Euro and BDT which may cause a loss of substantial amount.

Requirement:

Write a report to CEO describing the points to consider in relation to foreign exchange risk and available solutions to manage such risks. Your report should cover highlighting the nature (but not the amount) of cost associated with each of following options:

- i) Do nothing and accept the risk 3
- ii) Using a forward exchange contract 4
- iii) Carrying out a market hedge 4
- iv) Buying a currency option 4
3. Purnima RMG group has decided to expand through vertical integration and is considering to invest in following mutually exclusive textiles:

	Liza Textile BDT '000	Shormi Textile BDT '000
Annual cash inflows	13,000	32,000
Cost of Machine	33,000	75,000
Scrap value of Machine	1,250	1,750
Expected life of the Project	6	6

Purnima depreciates property using the straight-line approach and its cost of capital is 9% per annum.

Requirements:

Calculate followings and advise the Company which projects should be taken based on these calculations:

- a) Each project's accounting rate of return. 4
- b) Each project's Net Present Value (NPV). 4
- c) Each project's internal rate of return (IRR). 4
- d) Each project's payback period. 2

4. Sky Air Ltd. is a new airlines maintenance company. A Turkish airline asked the company to take on a maintenance contract for four years. Sky Air would receive an expected revenue of BDT 55 million per year from the contract, based on foreign exchange rate between Taka and Turkish Lira. Sky Air has conducted an in-depth feasibility study for the project at a cost of BDT 1 million. This suggests that the effective solution would be to construct brand-new maintenance facilities on property that the corporation already owns but does not actively use.

The new facilities will require a capital investment of BDT 115 million payable in advance. Except for a BDT 12 m on the sale of the old maintenance facility at the end of the year, there would be no pre-tax cash flows or efficiency savings in the year after the initial BDT 115m payment while the facility is being built. Regarding BDT 12 million receipt in Year 1, no tax depreciation considerations are to be made.

In order to maintain Sky Air's present level of maintenance activities, the new facilities would thereafter deliver efficiency benefits that would save BDT 2.5 million annually. Additional revenue will be generated from this new facility which will be BDT 2.7 million in the first year of operations and increase by BDT 1.5 million annually over the next three of the predicted four-year operating life of the new facility.

The maintenance facility is expected to be sold for BDT 12 m at the completion of Year 4 of its operations, with the proceeds being received instantly. The directors plan to charge existing head office overhead expenditures of BDT 6 million per year along with annual incremental costs during the facility's operational period of 50% of sales revenue (contract from Turkey plus additional revenue from the facility).

Company's cost of capital is 8%. On the first BDT 115 million investment in the factory, 25% tax depreciation allowances on a reducing basis are accessible immediately. Assume there are enough profits available elsewhere in the business to utilize all tax benefits at once and in full.

Corporate tax rate is 25% and assumed to be the same during the whole project time. It is presumed that all tax payments were made at the end of the relevant tax year. The project is estimated to have a negligible working capital impact.

Requirements:

- a) Calculate net present value of the proposed investment and decide whether it should be taken or not. 10
- b) What additional factors to be considered before taking final decision on the proposed investment? 2

5. Sunmoon Ltd. is an unlevered firm with expected annual earnings before taxes of Tk. 21 million in perpetuity. The current required return on the firm's equity is 16%, and the firm distributes all of its earnings as dividends at the end of each year. The company has 1.3 million ordinary shares outstanding and is subject to a corporate tax rate of 35%. The firm is planning a recapitalization under which it will issue Tk. 30 million of perpetual 9% debt and use the proceeds to buy back shares.

Requirements:

- a) Calculate the value of the company before the recapitalization plan is announced. What is the value of equity before the announcement? What is the value of equity after announcement? What is the price per share? 4
- b) Use the Adjusted Present Value (APV) method to calculate the company value after the recapitalization plan is announced. What is the value of equity after the announcement? What is the price per share? 4
- c) How many shares will be repurchased? What is the value of equity after the repurchase has been completed? What is the price per share? 4

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