

FINANCIAL MANAGEMENT

March-April 2024

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. BD Limited is considering investing in an ice cream plant to operate for the next four years. After that time the plant will be worn out, and the owner of the company wishes to retire in any case. The plant will cost Tk. 5,000 and is expected to have no realizable value after four years. If worthwhile the plant will be purchased at the end of an accounting period. Capital allowances at the rate of 18% per annum (reducing balance method) will be available in respect of the expenditure.

Revenue from the plant will be Tk. 7,000 per annum for the first two years and Tk. 5,000 per annum thereafter. Incremental cost will be Tk. 4,000 per annum throughout.

You may assume that all cash flows occur at the end of the financial year to which they relate. Assume BD Limited pays corporate tax at the rate 27% and has a cost of capital of 10%.

Requirements:

- a) Calculate the tax saved through capital allowances and show when the savings arise. 3
 - b) Advise the company on whether or not to proceed with investment in the ice cream plant. 4
 - c) Show what differences it would make if the plant were to be purchased and sold at the beginning of the accounting period. Comment on the wisdom of disposing of an asset on the first day of an accounting period. 3
2. Bangla Smart Phone (BSP) Ltd. is a new indigenous mobile phone manufacturer. The Company is thinking to offer credit to its customers for purchasing its premium quality phone “MyPhone” on the occasion of coming Eid and Noboborsho festival to boost its sales and to make its brand popular over other foreign mobile brands.

It is estimated that total 12,000 phones will be sold during this campaign. Average cost per mobile is BDT 65,000. Research data shows that 8% customers may be in default to pay the dues. A credit agency Company offers BSP to cover this credit risk with one time premium of BDT 200,000 and 5,000 for per phone sold out in this campaign.

Following data is given by BSP’s Finance Manager on its cash conversion cycle:

	2022		2023	Average	Average usage Per day during 2023
	BDT Mn		BDT Mn	BDT Mn	BDT
Raw materials inventory	53		55	54	-
Creditors	45		47	46	-
Work-in-progress inventory	39		40	39.5	-
Finished goods inventory	35		36	35.5	-
Debtors	56		75	65.5	-
Sales (annual)	470		480	-	1,287,672
Raw material usage (annual)	390		405	-	1,068,494
Cost of goods sold (annual)	430		465	-	1,178,083

Requirements:

- a) Refer to credit agency subscription information and answer the following questions:
 - i) State FIVE factors affecting a company’s credit policy. 5
 - ii) Advise BSP’s management if it should subscribe to the agency. 5
- b) Refer to the data about BSP’s cash conversion cycle, answer the following questions:
 - i) List TWO activities that increase cash and TWO activities that decrease cash. 4
 - ii) Calculate BSP’s cash-conversion cycle. 6

3. Fiz Ltd is a listed Bangladeshi company which makes a range of soft drinks, over 90% of which are sold in Bangladesh market. The company currently has a cash surplus, and the directors are contemplating a major investment in a plant in the Middle East to supply the local market. The Middle East market, important for the company, is currently supplied from Bangladesh.

To assist the economic viability of the investment, the finance department needs a rate at which to discount the projected cash flows from the plant. It has been decided to use the company's weighted average cost of capital (WACC), deducting the cost of equity through the dividend growth model.

The company's most recent balance sheet, dated 30 June 2023, included the following 'capital and reserve' section.

	Tk. '000
Called up share capital (ordinary shares of Tk. 10 each, fully paid)	5,750
Retained earnings	29,750

The company also had in issue Tk. 100 million of 9% loan stock. This is to be redeemed on 1 July 2024 at par. Interest is payable (in arrears) on 1 January each year. It has been the company's practice to pay a single dividend each year during July.

Dividend paid per share over recent years have been as follows:

	Tk
2018	21.25
2019	22.50
2020	22.50
2021	24.50
2022	25.00

The 2023 dividend will be Tk. 25.50 per share. The company's issued and fully paid share capital has not altered since 2017.

At 30 June 2023 the share were quoted at Tk. 335 per share (cum-dividend) and the loan stock at Tk. 10,172 (cum-interest) per Tk. 10,000 nominal.

The corporate tax rate is expected to remain at 27% for the foreseeable future.

Requirements:

- a) Determine the company's weighted average cost of capital, explaining your workings and justifying any assumptions which you have. 10
- b) Explain why the figure which you have determined in (i) may not be totally reliable for the purpose for which it has been determined. 5
4. a) Do you recommend that a firm should finance its current assets entirely with short term financing? Explain your answer. 4
- b) Lany Enterprises is interested in measuring its overall cost of capital. Current investigation has gathered the following data. The firm is in the 40% tax bracket.

Debt: The firm can raise debt by selling Tk. 1,000-par-value, 8% coupon interest rate, 20-year bonds on which annual interest payments will be made. To sell the issue, an average discount of Tk. 30 per bond would have to be given. The firm also must pay flotation costs of Tk 30 per bond.

Preferred share: The firm can sell 8% preferred share at its Tk. 95 per-share par value. The cost of issuing and selling the preferred share is expected to be Tk. 5 per share. Preferred share can be sold under these terms.

Ordinary share: The firm's Ordinary share is currently selling for Tk. 90 per share. The firm expects to pay cash dividends of Tk. 7 per share next year. The firm's dividends have been growing at an annual rate of 6%, and this growth is expected to continue into the future. The share must be underpriced by Tk. 7 per share, and flotation costs are expected to amount to Tk. 5 per share. The firm can sell new Ordinary share under these terms.

Retained earnings: When measuring this cost, the firm does not concern itself with the tax bracket or brokerage fees of owners. It expects to have available Tk. 100,000 of retained earnings in the coming year; once these retained earnings are exhausted, the firm will use new Ordinary share as the form of equity financing.

Requirements:

- i) Calculate the after-tax cost of debt.
- ii) Calculate the cost of preferred share.
- iii) Calculate the cost of Ordinary share.
- iv) Calculate the firm's weighted average cost of capital using the capital structure weights shown in the following table. (Round off answer to the nearest 0.1%.)

5. B Electronics Ltd. is a research-led business that specializes in the development of surveillance equipment. The company has recently developed a new form of camera with a powerful fibre-optic lens and is currently considering whether or not to produce the camera. The Board of Directors will soon meet to make a final decision and has the following information available to help it decide:

- (i) The cost of developing the camera has been Tk. 1,400,000 to date and the company is committed to spending a further Tk. 350,000 within the next two months,
- (ii) The company has spare production capacity and can produce the camera using machinery that will cost Tk. 4,700,000 and which will be purchased immediately. It is expected to be sold at the end of four years for Tk. 800,000.
- (iii) Total fixed costs identified with the production of the camera are Tk. 975,000 per year. This includes a depreciation charge in respect of the machinery of Tk. 75,000 per year and a charge allocated to represent a fair share of the fixed costs of the business as a whole of Tk250,000 per year.
- (iv) The cameras are expected to sell for Tk10,000 each and the marketing department believes that the business can sell 800 cameras per year over the next four years.
- (v) The variable costs of production are Tk7,000 per camera.
- (vi) If the business decides not to produce the camera it can sell the patents immediately for Tk. 1,300,000.

The company has a cost of capital of 12%.

Ignore taxation.

Requirements:

- a) Calculate the net present value of producing and selling the new camera versus the alternative of selling the patent. 6
- b) Carry out a separate sensitivity analysis to show by how much the following factors would have to change before the proposal to produce and sell the new camera has an NPV of zero: 8
 - i) The initial outlay on the machinery;
 - ii) The discount rate;
 - iii) The residual value of the machinery;
 - iv) The annual net operating cash flows.
- c) Briefly evaluate your findings in (a) and (b) above. 4

6. a) Jannat Ltd is an equity financed company. It has in issue 5,000,000 shares. These are currently quoted at Tk. 5.50 each cum-div. The dividend proposed for the current year is Tk. 0.50 per share. No increase in this dividend is anticipated unless new projects are accepted. There is no long-term debt. The company's cost of equity (K_e) is 10%

One such project is currently under consideration. This project would involve investing Tk. 500,000 immediately. It would generate a cash surplus of Tk. 100,000 in one year's time and annually thereafter in perpetuity. The project cash flows are known to the market, and do not alter the company's risk. All of the projects cash flows would be paid as dividend.

The NPV of the project is Tk. 500,000

Requirements:

You are asked to evaluate three alternative sources of finance from the point of view of the existing shareholders:

- i) A reduction in the current year's dividend to Tk. 0.40 per share, so as to release Tk. 500,000 of internally-generated funds. 3
- ii) A right issue on a one-for-ten basis at Tk. 1 per share. 3
- iii) A new issue of shares. These would be identical to existing ordinary shares and would first rank for dividend in one year's time. 3

- b) Bengal Chemicals is a supplier of highly purified gases to manufacturers. A large chip producer has asked Bengal to build a new gas production facility close to an existing semiconductor plant. Once the new gas plant is in place, Bengal will be the exclusive supplier for that semiconductor fabrication plant for the subsequent 5 years. Bengal is considering one of two plant designs. The first is Bengal's "standard" plant, which will cost BDT 30 million to build. The second is for a "custom" plant, which will cost Tk. 40 million to build. The custom plant will allow Bengal to produce the highly specialized gases that are required for an emerging semiconductor manufacturing process. Bengal estimates that its client will order Tk. 10 million of product per year if the traditional plant is constructed, but if the customized design is put in place, Bengal expects to sell Tk. 15 million worth of product annually to its client. Bengal has enough money to build either type of plant and in the absence of risk differences, accepts the project with the highest NPV. The cost of capital is 12%.

Requirements:

- i) Find the NPV for each project. Are the projects acceptable? 4
- ii) Find the breakeven cash inflow for each project. 3
- iii) The firm has estimated the probabilities of achieving various ranges of cash inflows for the two projects as shown in the following table. What is the probability that each project will achieve at least the breakeven cash inflow found in part (ii). 3

Probability of achieving cash inflow in given range		
Range cash inflow Mn Taka	Standard Plant	Custom Plant
Tk. 0 to Tk. 5	0%	5%
Tk. 5 to Tk. 8	10	10
Tk. 8 to Tk. 11	60	15
Tk. 11 to Tk. 14	25	25
Tk. 14 to Tk.17	5	20
Tk. 17 to Tk. 20	0	15
Above Tk. 20	0	10

- iv) Which project is riskier? Which project has the potentially higher NPV? Discuss the risk-return trade-offs of the two projects. 4

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