FINANCIAL MANAGEMENT **March-April 2022**

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) Your friend Salman owns and operates Craft Catering, a medium sized catering service business, which has supply contracts with leading airlines, local offices and supermarket chains. It supplies 80% of its sales on credit.

The pressures of managing substantial business growth in recent years have resulted in a deterioration on credit management and debtor collection procedures. The average collection period has consequently slipped from 30 days to 70 days, and bad debts have risen to one percent of credit sales. The business is currently relying on a bank overdraft, at an interest rate of 8%, to finance its debtors.

Salman has heard about factoring and is considering contracting out the entire credit management function to the factoring services arm of his local bank. The factor has quoted terms of a prepayment of 75% of the amount invoiced. The balance of 25%, less fees of 1.5% of credit sales, will be paid over to the company when the customer pays the factor. The factor insists all customer accounts will be collected within the normal 30-day credit period, and that bad debts will be eliminated. Financing charges on the monies advanced will be at 9% per year.

Sales for Crafting Catering for next year are projected at Tk 8mn. The company is currently spending Tk 20,000 per year on administering its sales ledger and credit control systems.

Requirement:

You are required to advise Salman whether he should accept the factoring arrangement. Assume a 365-day year. 9

b) Energy Systems, a company which designs and manufactures sophisticated electronic energy control systems, has experienced a period of rapid growth in recent years. The directors will soon meet to discuss the company's financial plan for the next five years. A key item on the agenda for the meeting is the discussion of the company's dividend policy over the planning period.

The Managing Director has suggested that the following dividend policies should be considered:

1. Maintain the same dividend payout ratio as in the current year; or
2. Increase the dividend per share by a constant 20% per year.

The Managing Director's objective is to avoid any reduction in dividends.

The Company has ambitious growth plans and based on the company's strategic business plan, the finance director has prepared the following forecast financial data:

Year	Forecasted EPS (Tk)
Current	9.8
1	11.9
2	10.1
3	13.3
4	14.5
5	17.4

It is approaching the end of the current financial year and the directors are proposing a final dividend of Tk 2.9 per share. An interim dividend of Tk 1.02 per share has already been paid.

Requirements:

i) As an assistant to the finance director, you have been asked to calculate the dividend per share (DPS) and the dividend payout ratios for each of the two policies over the five years period and comment on your findings.

Based on the information provided, state in your answer which policy, if any, you consider financially feasible and give your reasons. 7

ii) The finance director has now determined that, in order to be able to finance its planned investment programme over the five years, the company will need to retain at least 70% of its earnings in years 1 to 3 and at least 50% in years 4 to 5.

Show how this is likely to affect the proposed dividend policies over the five-year period. Assuming the directors do not wish to raise additional financing, indicate the maximum dividend payable. 7

2. BCC Limited wishes to estimate its cost of capital for use in analysing projects that are similar to its existing projects. The following figures have been extracted from their most recent accounts:

	BDT'000	**BDT'000**
Fixed assets		42,000
Investments		7,000
Current Assets	20,000	
Less - current liabilities	15,500	
		4,500
		53,500
Issued - 500,000 @ BDT2		1,000
Reserves		29,250
Shareholders' funds		30,250
6% Irredeemable Debentures		12,000
7% Preference Shares		10,000
Deferred taxation		500
Corporation Tax		750
		53,500

The current market value of BCC Ltd.'s ordinary shares is BDT 48.00 per share cum-dividend. BCC's beta is 1.2, the risk-free rate is 2 percent, and the return on the ISEC index (the market proxy) is 10 percent. An annual dividend of BDT 3,000,000 is due for payment shortly. The 6% debentures are irredeemable and are trading at a current market value of BDT 110.00, a BDT 10 premium above their issue price of BDT 100. Semi-annual interest of BDT 3 per debenture has just been paid on the debentures.

The 7% preference shares are trading at a current market value of BDT 12.50, a BDT 2.50 premium above their issue price of BDT 10. Interest has just been paid on these preference shares. There have been no issues or redemptions of ordinary shares or debentures during the past five years. The corporation tax rate of 12.5% has pertained throughout the past five years without change. Assume that tax relief on the debenture interest arises at the same time as the interest payment.

Requirement:

Ignoring the potential new investment, calculate the cost of capital that BCC should use as a discount rate when appraising new marginal investment opportunities. 12

3. Attire Ltd., a UK multinational Company operating in Bangladesh, started trading in 2016. Its functional currency is GBP (£). The company makes industrial filters and of late has been expanding its trading links (both in terms of imports and exports) in Europe. To date it has not been concerned with managing its foreign exchange risk. However, Attire's board of directors now wishes to investigate the implications of a change in that policy. You are a member of the company's finance team and have been sent the memorandum set out below by Nayeem Ahmed, Attire's Finance Director.

MEMORANDUM

To: Finance Team Member

From: Nayeem Ahmed

Date: 21 March 2022

I'd like you to finish off a piece of work I've been doing for the board which wants to establish if it's worth trying to hedge our exposure to foreign exchange risk. We have three fairly large transactions to deal with in the next six months, all of which involve buying/selling euros.

The details are as follows.

- We are due to receive €632,000 from a German customer on 20 June 2022.
- We are due to receive €560,000 from a Belgian customer on 22 September 2022 and to pay €1,347,500 to one of our Spanish suppliers on the following day.

I have researched the relevant foreign exchange rates and interest rates and they're listed below:

	Exchange rates Euro (€)/GBP (£)
Spot rates	1.412 – 1.445
Three months forward rates	0.85 – 0.81 cents premium
Six months forward rates	1.43 – 1.38 cents premium

Interest rates		*Lending*	*Borrowing*
	Euro	3.9% pa	5.2% pa
	GBP	4.8% pa	6.1% pa

Could you write a memorandum for the board which:

a) Recommends whether we should use (i) a forward contract or (ii) a money market hedge. It would also be advisable to show the board what the outcome would be if we didn't hedge at all (you can assume here there would be no change in the spot rate as at 21 March 2022 in the next six months). 10

b) Explain the implications of using futures contracts or currency options instead. 4

Regards
Nayeem Ahmed

4. a) Compare and contrast the three main attitudes to risk which investors may exhibit. Why is it considered important for the finance manager to understand these concepts? 4

b) The staff of Safwan Manufacturing has estimated the following cash flows and probabilities for a new manufacturing process:

YEAR	NET CASH FLOWS		
	PR = 0.2	PR = 0.6	PR = 0.2
0	(100,000)	(100,000)	(100,000)
1	20,000	30,000	40,000
2	20,000	30,000	40,000
3	20,000	30,000	40,000
4	20,000	30,000	40,000
5	20,000	30,000	40,000
5*	0	20,000	30,000

Line 0 gives the cost of the process, Lines 1 through 5 give operating cash flows, and Line 5* contains the estimated salvage values. Safwan's required rate of return for an average risk project is 10%.

Requirements:

i) Assume that the project has average risk. Find the project's expected NPV. 3

ii) Find the best case and worst case NPVs. What is the probability of occurrence of the worst case if the cash flows are perfectly positively correlated over time? If they are independent over time? 3

iii) Assume that all the cash flows are perfectly positively correlated; that is, there are only three possible cash flow streams over time: (1) the worst case, (2) the most likely, or base case and (3) the best case, with probabilities of 0.2, 0.6 and 0.2 respectively. These cases are represented by each of the columns in the table. Find the expected NPV, its standard deviation and its coefficient of variation. 4

iv) The coefficient of variation of Modern's average project is in the range 0.8 to 1.0. If the coefficient of variations of a project being evaluated is greater than 1.0, 2 percentage points are added to the firm's required rate of return. Similarly, if the coefficient of variation is less than 0.8, 1 percentage point is deducted from the required rate of return. What is the project's required rate of return? Should Modern accept or reject the project? 2

5. Fine Home Limited is in the business of manufacturing different home appliances for the last 20 years. Due to increased demand of home appliances in the country, Fine Home Ltd. is now considering a takeover bid for a competitor, Nice Home Ltd., in the same line of business.

Following are the summarized statement of profit or loss and statement of financial position of Nice Home Ltd.:

Statement of Profit or Loss
for the year ended June 30, 2020

	Tk. '000
Sales	500,000
Profit before taxation	75,000
Income tax	18,750
Profit for the year	56,250

Statement of Financial Position
as on June 30, 2020

Tk. '000

Assets		**Equity and Liabilities**	
Non-current assets	125,000	Share capital (Tk. 10 each)	45,000
(Net of depreciation)		Retained earnings	25,000
Current assets	165,000	Total equity	70,000
		Non-current liabilities	25,000
		Current liabilities	195,000
		Total liabilities	220,000
Total assets	**290,000**	**Total equity and liabilities**	**290,000**

The Strategic Investment Analyst of Fine Home Ltd. has prepared projected revenue and expenses analysis of five years for the activities of Nice Home Ltd., after taking over by Fine Home Ltd., as follows:

Nice Home Ltd.
Projected revenue and expenses
(On taking over by Fine Home Ltd.)

Tk. '000

	2020-21	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Sales	550,000	605,000	653,400	686,000	713,450
Cost of goods sold	247,500	272,250	294,030	308,700	321,053
Cash operating expenses	77,000	84,700	85,000	89,180	90,000

The current market prices of Fine Home Ltd., and Nice Home Ltd. shares are Tk. 55 and Tk. 65 per share respectively. Fine Home Ltd. has a 9% bonds with 4 years to maturity, par value of Tk. 100 and current market price of Tk. 105. Tax rate of Fine Home Ltd. is 25%. Other information relevant to takeover are as follows:

- Information related to cost of equity:

Risk-free rate	5%
Return on market	11%
Nice Home Ltd., equity beta	1.15

- Post-acquisition gearing (Debt ÷ Capital employed) of Fine Home Ltd. is depending upon the final price paid for Nice Home Ltd. However, its forecasted gearing is to be between 30% and 40%. Assume that cost of debt of Fine Home Ltd. will remain unchanged on acquisition of Nice Home Ltd.
- Capital allowances (tax deduction) are allowable for taxation purposes against profits. Capital allowances and additional working capital for the replacement of assets and forecasted growth are as follows:

Tk. '000

	2020-21	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Capital allowances	81,250	85,000	87,500	87,500	87,500
Additional working capital	85,000	82,000	85,000	90,000	95,000

Requirements:

a) Two competitors of Nice Home Ltd. have price/ earnings (P/E) ratio as 6: 1 and 7: 1. Both of these competitors have same business risk as of Nice Home Ltd. Using P/E ratio of competitors of Nice Home Ltd., calculate price per share or range of prices per share (based on existing profit of Nice Home Ltd.) that Fine Home Ltd. should offer to purchase the shares of Nice Home Ltd. 5

b) Strategic Investment Analyst also expects that after acquisition of Nice Home Ltd., equity beta of Nice Home Ltd. is expected to be 1.25. Calculate weighted average cost of capital (WACC) of Fine Home Ltd. at 30% and 40% level of gearing. 7

c) Using forecasted data as prepared by the Strategic Investment Analyst, calculate future net cash flows for the activities of Nice Home Ltd. for the period of 2020-21 to 2024-25. 6

d) Fine Home Ltd. also forecasted that expected net cash flows of Nice Home Ltd. (after working capital) are expected to grow at between 5% and 7% per year after 2024-25 for indefinite period. Estimate present values of future net cash flows using 11% weighted average cost of capital. 8

e) Calculate the value of shares by using present values of future net cash flows as calculated in (d) above, at 30% and 40% level of gearing. 4

6. The Van Development Company has just sold a Tk 100mn, 10 years, 12% bond issue. A sinking fund will retire the issue over its life. Sinking fund payments are of equal amounts and will be made semiannually, and the proceeds will be used to retire bonds as the payments are made. Bonds can be called at par for sinking fund purposes, or the funds paid into the sinking fund can be used to buy bonds in the open market.

Requirements:

a) How large must each semiannual sinking fund payment be? 2

b) What will happen, under the conditions of the problem thus far, to the company's debt service requirements per year for this issue over time? 2

c) What would have to happen to interest rates to cause the company to buy bonds on the open market rather than call them under the original sinking fund plan? 1

---The End---