FINANCIAL MANAGEMENT

March-April 2025

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) AD is a globally recognized German based sportswear company that sells branded sportswear mainly cloths and footwear throughout the world. Many of its brands are promoted by well-known sports stars, who appear in company's advertisement and wear its product while competing in events.

The company designs its product in Germany but outsource their manufacture to partners mostly in Bangladesh due to its cheap labor cost. Recently, it has come to the attention of the sportswear company's board of directors that one of the manufacturing companies employs children at its factories. These children are paid very low wages and work long hours, so they are unable to attend school.

Requirement:
Discuss the factors the board of AD should consider when deciding whether to continue to work with this manufacturing partner. 3

b) The following statement appears in the objectives of a well-known listed companies in Bangladesh:

"We never confuse why we exist - to create the maximum possible returns to our stakeholders."

The managing director of the company believes that the best external measure of shareholder wealth maximisation is growth in earnings per share (EPS).

Requirement:
Critically evaluate this belief. Suggest three value drivers on which a business can focus, and why their management will increase shareholder wealth. 5

c) A company has 150,000 shares in issue with a current market price of Tk. 2 each.

It announces an increase in share capital to be achieved by a rights issue of one new share for every three existing shares. The rights price is Tk. 1 per new share, thus raising Tk. 50,000 for investment in the new project.

Requirements:
i) Calculate the theoretical ex-rights price. 3

ii) Calculate the value of the right to subscribe for each new share. 2

d) You have Tk. 2,000,000 to invest for a five years' term and are considering two options:

Option 1: Sukuk: A Sukuk issued by a reputable real estate investment company with a projected annual profit rate of 7%. The Sukuk represents ownership in a portfolio of income-generating properties. You will receive periodic profit distributions based on the underlying properties' rental income.

Option 2: Conventional Bond: A corporate bond issued by a well-established company with a fixed annual interest rate of 6%. You will receive fixed interest payments throughout the bond's term.

Requirement:
Which option should you choose considering pros and cons of each of the options? 8

2. Nova Tech Solutions is a fast-growing technology firm specializing in business software for small and medium enterprises in Dhaka, Bangladesh. The company is at a pivotal stage where it plans to expand its operations regionally. This expansion requires BDT 20 million, and the management is evaluating the most cost-effective and strategically beneficial way to fund this growth. Below is the financial data and contextual background of the company:

Extract from the management information of Nova:

Equity	BDT 30 million (Market Value)
Debt	BDT 20 million (Market Value)
Average Pre-tax Interest Rate	8%
Corporate Tax Rate	30%
Operating Income Before Taxes	BDT 12 million annually
Cost of Equity	12%

With the expansion, post-expansion Earnings Before Interest and Tax (EBIT) is expected to grow by 25%. The expansion will introduce new revenue streams but also add financial risk. For the proposed expansion the company is considering following Financing Options:

Option 1: Issue BDT 20 million in new equity, which will dilute the current shareholders' stake but eliminate additional financial risk.

Option 2: Take on BDT 20 million in new long-term debt at a fixed interest rate of 9%, maintaining ownership control but increasing debt-to-equity ratio and financial risk.

Option 3: Employ a hybrid approach, raising BDT 10 million through equity and BDT 10 million through debt, attempting to balance the trade-offs of risk, cost, and control.

Requirements:

a) Calculate Nova Tech's current Weighted Average Cost of Capital (WACC) and the new WACC for each financing option. Evaluate the impact of each option on the company's valuation. 6

b) Based on the post-expansion EBIT projections, determine the expected Earnings Per Share (EPS) under each financing option. Analyze how changes in EPS influence shareholder value. 5

c) Recommend the most suitable financing option for Nova Tech. Provide a detailed justification based on WACC, EPS, and other strategic considerations. Assess the potential risks associated with over-leverage or equity dilution and their long-term implications for the company. 3

3. A Bangladeshi company has today invoiced sales to a Japanese company in Yen, payment being due 2 months from the date of invoice. The invoice amount is ¥ 30,000,000, and today's spot rate between BDT and Yen is BDT/¥ 1.4185 -1.4905. It is expected that Yen will be stronger by about 6% over the 2-month period, and in order to safeguard the BDT proceeds from the sale, the company is interested in taking appropriate action either through the foreign exchange market or the money market.

The 2 months borrowing rate for Japanese Yen is 7.5% whereas the 2-month deposit rate quoted by the company's banker for BDT is 12%. The BDT/¥ two-month forward exchange rate is quoted at 1.3755-1.4475.

Requirements:

a) Evaluate the two alternative courses of action available to the company, and advise the company as to which course of action should be followed. 8

b) "Currency risk emerges in three different forms linked to three different exposures a firm could face due to direct or indirect business operations across national boundaries that involve foreign currencies".

Explain three different forms of currency risks arising out of three different exposures. 6

4. Fixing Fashion, a readymade garment company based in Bangladesh, has a trade agreement to export goods to a European buyer and expects to receive €150,000 in three months. The current spot exchange rate is 1 EUR = 115 BDT, and the three-month forward exchange rate is quoted at a premium of 0.7%. Fixing Fashion must decide between using a forward contract, currency options, or leaving the exposure unhedged.

The annual interest rates for deposits and borrowing are as follows:

Countries/ Area	Deposit rate	Borrowing rate
UK	4%	6%
Eurozone	3%	5%
Bangladesh	7%	9%

The company is considering borrowing or investing the amount in advance to optimize the net receipt. Fixing Fashion's analysts project that the spot exchange rate in three months could either appreciate to 1 EUR = 117 BDT or depreciate to 1 EUR = 112 BDT, depending on macroeconomic factors. Similarly, the analysts forecast GBP/BDT exchange rate movements: Best-case scenario: 1 GBP = 137 BDT. Worst-case scenario: 1 GBP = 132 BDT.

Fixing Fashion can purchase currency options to hedge its exposure. The available options are:

- Call option: Exercise price = 1 EUR = 116 BDT, Premium = 1% of the notional amount.
- Put option: Exercise price = 1 EUR = 114 BDT, Premium = 0.8% of the notional amount.
- The standard contract size for EUR/BDT options is €20,000.
- GBP/EUR Exchange Rate: The current exchange rate between GBP and EUR is 1 GBP = 1.17 EUR.

Using forward contracts or options comes with associated costs, which must be weighed against the opportunity cost of leaving the exposure unhedged. The company has limited cash flow and cannot invest in options or forward contracts beyond €100,000 of the exposure. The remaining €50,000 exposure must be managed separately. Fixing Fashion is allowed to engage in arbitrage opportunities between BDT, EUR, and GBP to optimize returns based on interest rates and exchange rate movements.

Requirements:

a) Calculate the BDT receipt for hedging €100,000 with a forward contract and analyze the impact of leaving €50,000 unhedged under best- and worst-case exchange rate scenarios 3

b) Compute the BDT receipt from hedging €100,000 using call and put options (accounting for premiums) and assess the effect on the unhedged €50,000 in both exchange rate scenarios. 4

c) Identify if Fixing Fashion can enhance its net receipt by borrowing or depositing in BDT, EUR, or GBP over three months. 6

d) Recommend the best risk management approach, considering exchange rate volatility, hedging costs, and interest rates, with justification supported by calculations. 3

5. Apricot Importer PLC is one of few leveraged Company listed in Dhaka Stock Exchange Ltd. As part of its strategy to expand the business, the Company is looking for new projects. In a CXO meeting, Company's Chief Investment Analyst (CIA) presented five potential capital investments which are indivisible and cannot be delayed in their execution. CFO reminded that the Company has capital constraints of over BDT 730 million. Details of the projects are:

Expected net cash inflows (including salvage value)						
Year	**1**	**2**	**3**	**4**	**5**	**Initial Outflow**
Project	**BDT'000**	**BDT'000**	**BDT'000**	**BDT'000**	**BDT'000**	**(BDT'000)**
A	1,530,000	1,530,000	1,530,000	1,530,000	1,530,000	4,698,000
B	1,620,000	1,692,000	1,530,000	-	-	3,510,000
C	1,116,000	1,116,000	1,602,000	1,746,000	-	3,420,000
D	1,584,000	1,584,000	1,584,000	1,584,000	-	3,510,000
E	990,000	1,170,000	1,350,000	1,782,000	990,000	3,510,000

The CIA said that the risk of these projects are similar to that of Company's existing risk level. Apricot PLC invests any surplus funds in money market at 10% which is an efficient market while the cost of capital of the Company is 13% per year.

Requirements:

Utilizing the provided information, respond to the following queries:

a) Determine the anticipated total present value of cash flows and net present value for each project. 5

b) Calculate the expected profitability index for each of the five projects 5

c) Rank the projects according to investment appraisal techniques computed in (a) and (b) 2

d) Give a succinct explanation of why the two investment strategies' rankings differ. 2

6. Mark Innovations, a Sylhet-based company known for its pioneering work in sustainable technologies, is at a pivotal moment. The company has built its reputation on delivering cutting-edge, eco-friendly solutions, and now it aims to take its growth to the next level with the launch of a revolutionary home appliance, EcoCool Pro, an energy-efficient, eco-friendly, and smart cooling appliance designed to meet the demands of modern households while promoting sustainability.

The CEO of Mark Innovations has outlined the vision clearly during a recent leadership meeting: "This product has the potential to shape the future of our company, but it also comes with significant financial and operational risks. We need to be certain before moving forward." With that, all eyes turned to you, the CFO. The board has tasked you with a comprehensive assessment of the project's financial feasibility. Your findings will shape the decision to either proceed with this ambitious venture or put it on hold.

The project requires an initial capital investment of BDT100 million to acquire machinery and equipment. The expected operational lifespan is five years as demand beyond this period is uncertain, during which the following annual cash inflows (before adjustments) are projected: Year 1 - BDT 40 million, Year 2 - BDT 45 million, Year 3 - BDT 50 million, Year 4 - BDT 55 million, and Year 5 - BDT 70 million. A required rate of return of 10% has been set to evaluate the investment.

Inflation is expected to rise by 3% annually, reducing the real value of future cash inflows. The corporate tax rate of 20% will also necessitate adjustments to calculate post-tax cash inflows. The machinery will be depreciated evenly over five years. Additionally, the project will require an upfront working capital investment of BDT 5 million, which will be fully recovered at the end of Year 5. Market risks cannot be ignored. A 5% reduction in cash inflows for Year 2 is anticipated due to potential demand fluctuations. Furthermore, marketing expenses are forecasted at BDT 2 million annually for Year 1 and Year 2. Operational costs, starting at BDT 3 million in Year 1, are expected to increase by 5% annually.

The company also faces some non-financial challenges. Regulatory compliance costs of BDT 2 million are anticipated, and a three-month delay in obtaining necessary approvals will reduce Year 1 cash inflows by 25%. Indirect costs, such as administrative overheads of BDT 3 million annually and utility costs starting at BDT 1 million annually, increasing by 4% per year, must also be included in the assessment.

For this project, the company will forgo an alternative investment opportunity capable of generating BDT 6 million annually over first four years at the same discount rate. Additionally, unforeseen circumstances such as repairs and maintenance costs, estimated at BDT 2 million annually from Year 2 onward and increasing by 4% per year, must also be accounted for.

At the conclusion of the project, the machinery is expected to have a salvage value of BDT 15 million, which will be included as a terminal cash inflow. However, BDT 8 million already spent on research and development and BDT 2 million on a feasibility study- cannot be recovered.

The board is also considering investment in a civil engineering project where the expected internal rate of return is around 12%, with an investment of BDT 200 million. However, the CEO has reservations about this project, citing its irrelevance to the company's core business and the lack of requisite experience in civil engineering.

As the CFO, you are tasked with preparing a thorough financial analysis for the board.

Requirements:

a) Calculate the net present value (NPV) of the project and, solely based on the NPV, comment on the project's viability. 5

b) i) Calculate the project's sensitivity to a 10% adverse change in net cash flows and assess its impact on decision-making. 5

ii) How can management use Real Options Theory, Risk-Adjusted Return Models, and Monte Carlo simulation or scenario analysis to improve financial forecasting and mitigate uncertainty in capital budgeting? 3

c) i) Calculate the internal rate of return (IRR) of the project. 5

ii) Compare it with the alternative opportunity the board has, and recommend a decision from both financial and operational strategic points of view 3

---The End---