**FINANCIAL MANAGEMENT**

**November-December 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. Meghna needs to raise an additional BDT 800 million on 1 January 2025 to fund its chosen portfolio of new projects. The board is considering two alternative financing options:

   (i) **Rights Issue:** A 1-for-4 rights issue at a subscription price of BDT 70 per share.
   (ii) **Bond Issue:** An issue of 7% coupon bonds at a price of BDT 96 per BDT 100 nominal value.

   The company's Profit Before Interest and Tax (PBIT) for the year ended 31 December 2024 is BDT 2,500 million. The BDT 800 million of new funds is expected to be invested in projects that will generate an additional PBIT of BDT 120 million per year, starting in the year ending 31 December 2025.

   Meghna currently has 200 million ordinary shares in issue and BDT 4 billion of 8% bonds outstanding. The industry average for financial gearing (Market Value of Debt / Market Value of Equity) is approximately 40%.

   **Requirements:**

   a) For the proposed rights issue, calculate: 4
      - The Theoretical Ex-Rights Price (TERP) per share.
      - The value of one right.

   b) Calculate the forecast Earnings Per Share (EPS) and financial gearing (Market Value of Debt / Market Value of Equity) for Meghna for the year ending 31 December 2025, under both the rights issue and the bond issue financing options. 8

   c) Advise the board of directors on which financing option to choose. Your advice should consider the impact on EPS, financial gearing and risk, and any potential issues relating to shareholder control. 5

2. Mack Ltd, a Bangladeshi company, started to produce radio-controlled toys. The most recent balance sheet of the company is set out below:

| | Tk. '000 | Tk. '000 | Tk. '000 |
|---|---|---|---|
| Non-current assets: | | | |
| Freehold building at cost | | 25,000 | |
| Less: accumulated depreciation | | (5,000) | |
| | | | 20,000 |
| Plant and machinery at cost | | 37,900 | |
| Less: accumulated depreciation | | (12,900) | |
| | | | 25,000 |
| | | | 45,000 |
| Current assets | | | |
| Inventory | 39,000 | | |
| Trade receivables | 20,000 | | |
| Bank | 500 | 59,500 | |
| Less payables: amounts falling due within one year | | | |
| Trade payables | | (16,500) | 43,000 |
| | | | 88,000 |
| Capital and reserves | | | |
| Ordinary shares @ Tk. 10 each | | | 25,000 |
| Accumulated profits | | | 63,000 |
| | | | 88,000 |

During the year to 31 December 2023, the sales revenue for the business was Tk. 240 million.

As a result of recent changes in overseas markets, combined with developments in technology, it has been predicted that the market for the company's products will increase significantly in the short- term. The directors of Mack Ltd are planning to expand the business significantly during the forthcoming year in order to exploit these new market conditions.

The following forecasts and assumptions for the forthcoming year have been prepared by the directors:

(1) Sales for the forthcoming year will be 25% higher than the previous year. Sales are expected to be spread evenly over the year.
(2) The gross profit margin will be 30% of sales.
(3) To prepare for the expansion in output, new machinery costing Tk. 57 million will be purchased at the beginning of the year and a long-term loan will be taken out immediately to help finance this purchase. At the end of the year, the long-term debt to equity ratio is planned to be 1:3.
(4) The average receivables collection period will be three times that of previous years and the average payment period for creditors will be one and a half months.
(5) The value of inventory at the end of the year will be Tk. 18 million lower than at the beginning of the year.
(6) Depreciation charges for freehold buildings and plant and machinery are calculated using the reducing balance method and will be 5% and 20% respectively. Other expenses for the period will be Tk. 54.5 million. There will be no prepayments or accruals at the end of the year.
(7) The dividend pay-out ratio will be 50% which is in line with previous years. The tax rate will be 25% of net profits before taxation. The dividend will be paid during the year to which the profits relate. Tax is paid in the same year that it is charged.

**Requirements:**

a) Prepare in as much detail as the information allows:
   i) A forecast income statement for the year ended 31 December 2024 7
   ii) A forecast balance sheet as at 31 December 2024 7
b) Comment briefly on the liquidity and position of the business using the financial statements 4

3. Meghna has significant foreign currency transactions. The company's treasurer has identified two specific exposures that require hedging decisions. Both transactions are due in three months' time on 31 March 2025.

- A payment of **USD 2,500,000** to a US-based cotton supplier.
- A receipt of **EUR 1,000,000** from a German customer.

The following market data is available at the close of business on 31 December 2024:

**Spot Exchange Rates:**

- BDT/USD: 110.50 – 110.65
- BDT/EUR: 125.10 – 125.30

**Three-month Forward Exchange Rates:**

- BDT/USD: 111.20 – 111.40
- BDT/EUR: 124.50 – 124.75

**Annual Money Market Interest Rates (%):**

| Currency | Borrowing Rate | Depositing Rate |
|---|---|---|
| BDT | 7.50% | 6.00% |
| USD | 5.00% | 4.50% |
| EUR | 4.00% | 3.50% |

**Requirements:**

a) Calculate the expected BDT cost of the USD 2,500,000 payment using: 6
   - A forward exchange contract.
   - A money market hedge.
b) Calculate the expected BDT value of the EUR 1,000,000 receipt using: 6
   - A forward exchange contract.
   - A money market hedge.
c) Based on your calculations in (a) and (b), advise Meghna which hedging instrument it should use for each of the two transactions. 2

4. Meditech Systems Inc., a U.S.-based medical diagnostics company, has signed a procurement agreement with a German biotech firm to purchase specialized lab equipment worth €1,500,000 payable on 30 September. The equipment is critical for a new product line scheduled to launch in Q4, and any delay or cost overrun could affect investor confidence and regulatory timelines.

   On 1 August, Meditech's treasury team, led by CFO Dr. Elena Brooks, evaluates the euro-dollar exchange rate risk. The spot rate is €1 = USD 0.9180 and the 3-month euro futures are trading at USD 0.9205. Concerned about euro appreciation, the team decides to hedge 80% of the exposure using CME-traded futures contracts, each sized at €125,000.

   Dr. Brooks also considers using forward contracts or options but ultimately chooses futures due to liquidity and mark-to-market transparency. She instructs the team to monitor basis risk and prepare a post-settlement analysis for the board. On 30 September, the spot rate is €1 = USD 0.9428 and the futures closing price is USD 0.9455. The company settles the invoice using the spot market and closes its futures position simultaneously.

   **Requirements:**

   a) Determine the effective exchange rate achieved by Meditech after applying its futures hedge strategy. 6

   b) Assess the effectiveness of the hedge, considering the implications of partial coverage, basis movement, and instrument selection. Estimate the USD impact of the unhedged portion. 5

   c) Briefly explain basis risk and its impact on Meditech's hedge. Calculate the basis at inception and settlement, and comment on its direction and effect. 3

5. In Q1 2026, Agrochem Limited, a publicly listed agro-industrial firm in Bangladesh, is evaluating an investment in a dual-purpose processing and export facility in Chattogram. The proposed facility would enable the firm to expand into value-added fertilizer granulation and organic pesticide extraction, targeting both domestic and Southeast Asian markets. The board has approved a capital ceiling of BDT 500 million, but the CFO, Mr. Nayeem Rahman, must determine whether the proposed project meets both financial and strategic thresholds.

   The investment requires an initial outlay of BDT 460 million, comprising BDT 400 million for civil works and locally sourced equipment, and JPY 400 million for imported machinery payable upfront. The current JPY/BDT exchange rate is 0.75, but analysts forecast depreciation to 0.80 within the next year. The machinery will be depreciated on a straight-line basis over six years, with no salvage value. The project also requires BDT 60 million in working capital, recoverable at the end of Year 6. Separately, BDT 25 million in pre-operating expenses have already been incurred.

   The plant is expected to operate for six years, generating annual revenues of BDT 295 million. Operating costs are projected at BDT 60 million per year, of which BDT 40 million are directly tied to production volume, and BDT 20 million are expected to remain constant regardless of output. In addition, the project will incur annual insurance premiums of BDT 5 million starting Year 1, and maintenance expenditures of BDT 8 million from Year 2 onward. Energy costs are expected to start at BDT 12 million in Year 1 and escalate by 6% annually. The staffing plan includes 12 new technical hires at a total annual cost of BDT 9 million. Corporate administrative overheads of BDT 6 million per year are expected to continue with or without the project.

   The land allocated for the facility was previously earmarked for a logistics hub that was projected to generate BDT 15 million annually in net cash flows. The project qualifies for a three-year tax holiday, after which a 30% corporate tax rate will apply from Year 4 onward. The firm's financing mix is 45% debt and 55% equity. Its bonds carry a coupon of 10%, while equity investors expect a return consistent with a beta of 2.18 against a 7% risk-free rate and a 5% market premium.

   The board has requested a full financial appraisal of the project. However, it is concerned that the revenue projections are already optimistic, with potential increases of up to 15% at best. This optimism, however, does not extend to the foreign exchange rate. Strategically, the project is believed to offer ESG alignment, export diversification, and greater supply chain control. At the same time, risks include currency volatility, regulatory uncertainty, inflationary pressures, and competitive retaliation from regional players. Mr. Rahman must therefore present a recommendation that integrates quantitative

rigor, strategic foresight, and sound judgment in evaluating all financial and operational implications. He has accordingly asked you, as a core member of the company's finance team and a senior chartered accountancy student, to prepare a draft calculation.

**Requirements:**

a) Calculate the following:

i) Net Present Value (NPV) of the project 6

ii) Internal Rate of Return (IRR) of the project 6

b) Suggest whether the project is financially and strategically viable. 6

c) Assume a five-year project life, recovery of BDT 60 million working capital in Year 5, and a 15% revenue increase. Would these changes improve financial viability? Justify without full recalculation, and note any other factors the board should assess. 7

6. SB Limited has identified the following investment projects:

| | **Immediate outflow** | | |
|---|---|---|---|
| | t0 | t1 | t2 |
| | Tk.'000 | Tk.'000 | Tk.'000 |
| Project A | (15,000) | (2,500) | 32,500 |
| Project B | (20,000) | (6,500) | 35,000 |
| Project C | (17,500) | 5,000 | 15,000 |
| Project D | (25,000) | (2,000) | 40,000 |
| Project E | (16,000) | (7,500) | 29,500 |

**Requirements:**

a) The company faces a perfect capital market, where the appropriate discount rate is 10%. All projects are independent and divisible. Which projects should the firm accept? 2

b) The company faces capital rationing at t0. There is only Tk. 50 million of finance available. None of the projects can be delayed. Which projects should the firm accept? 2

c) The situation is as in part (b) above, except that you are now informed that projects A and B are mutually-exclusive. Which projects should now be accepted? 2

d) The solution is as in part (b) above, except that you are now told that all projects are independent but indivisible. Which projects should be accepted? What will be the maximum NPV available to the company? 2

e) All projects are independent and divisible. There is capital rationing at t1 only. No project can be delayed or brought forward. There is only Tk. 15 million of external finance available at t1. Which projects should be accepted? 4

---The End---