Certified Finance and Accounting Professional Stage Examination

The Institute of
Chartered Accountants
of Pakistan

4 June 2024
3 hours – 100 marks
Additional reading time – 15 minutes

Business Finance Decisions

Instructions to examinees:

(i) Answer all **FIVE** questions.
(ii) Answer in **black** pen only.

Q.1 For the purpose of this question, assume today's date is **31 December 2024**.

You work in the finance department of KC Refinery Limited ("KC"), a public listed company, based in Karachi. KC refines crude oil. The board are currently appraising a significant project that will upgrade and expand the current refinery process.

The upgrade will not only expand the refinery capacity by three times but also enable a change in production process from the simpler hydro skimming to a deep conversion refinery. The expansion will take two years to complete and will enable KC to produce environmentally friendly fuels such as EURO V compliant high speed diesel and petrol. The production of high-sulphur furnace oil will continue at the original refinery as there is still demand for this product, despite the environmental cost.

Two possible locations for the expansion were considered as part of the feasibility report. One on a brown field site and the other a green field site, both situated close to Karachi Port. The brown field site offered several advantages and so the decision has been made to use this location. The board estimate that the costs of the initial project feasibility study amount to Rs. 175 million.

Investment

One advantage of the brown field site is that significant parts of the site's infrastructure can be repurposed. This includes the use of storage tanks and underground pipes connecting to the port. This saves the company USD 1 billion in initial costs when compared to the green field site.

The brown field site requires investment of USD 1.2 billion which will be invested as three equal annual payments. The first phase is due to start immediately and USD 0.4 billion will be required in January 2025. KC do not intend to hedge against any exchange rate movement and will purchase the USD at the spot rate when the payments are due.

A further advantage of the brown field site is that tax relief is given in full for any capital expenditure, with 100% of the cost being deductible for tax purposes. KC will be able to offset the tax relief against profits on the original refinery and so relief will be obtained in the year of expenditure.

Operations

Production will commence in two years' time such that the first operating profit will arise in the year ending 31 December 2027.

This investment is expected to increase production significantly by 2.5 million tons per annum. There is no demand risk as Pakistan does not produce enough fuel to supply domestic needs and so, as a country, it is a net importer. Revenue per ton is Rs 190,000 in current prices, prices are expected to increase by 8% per annum for the next five years, and then thereafter at 3% per annum.

Once the infrastructure is in place the gross margins are expected to be 12%, this is slightly higher than the current gross profit margin of 10%.

The operating profit margin is currently 9% however the board anticipate a reduction in this due to inflationary pressures on operating costs. The operating costs are expected to increase at 10% per annum from current prices for the next three years, and at 5% per annum thereafter.

Working capital
At the beginning of years three to five, the new refinery will require an investment in working capital representing 10% of that year's revenue. No additional investment in working capital is expected at the beginning of the sixth year and onwards and all accumulated working capital will continue to be utilised at the site following the board's five-year investment appraisal period.

Project appraisal
The Board of KC has requested an appraisal of the increase in fuel production which the investment is expected to yield.

Projects are appraised at KC over a five-year period, which includes a terminal value at the end of year five to estimate and include future cashflows from year six onwards.

The net of tax terminal value is calculated as seven times the after tax operating profits of year five.

KC has historically accepted projects that exceed the target IRR of 15%. The newly appointed CFO has recently expressed concern that the IRR exaggerates the return of the project and the MIRR calculation might be more suitable. The CFO has calculated that the current cost of capital is 12%.

Project Finance
The investment is significant. KC have funds available for the initial investment of USD 0.4 billion however additional funding will be needed to complete the project. The CFO has asked you to explain the alternative ways the remaining finance could be raised.

Market information

Tax rate:
KC pays tax at 29%.

Exchange rate: 31 December 2024
USD 1: PKR 275

Inflation:
US 6%
Pakistan 8%

Required:
(a) Calculate the IRR and MIRR of the project. **(17)**
(b) Evaluate whether the board should accept the project. Your answer should include a brief assessment of the financial and non-financial aspects of the expansion. **(05)**
(c) Advise on the options for KC to raise the remaining long-term finance for this investment. **(03)**

Q.2 Top Travel Ltd ("TT") is a privately owned bus company that provides local services within Karachi. TT is currently a minor player within the industry however the board have ambitious plans to be one of the top five providers within the next five years.

In November 2023, TT acquired five new electric buses at a cost of Rs 500 million. The investment in new buses is the first phase of TT's growth plan. New routes have been added expanding services to different high population areas and some longer distance, inter city services.

TT used surplus cash held at the bank to purchase the additional non-current assets.

You have recently started working for TT in the finance department and you have been asked to design a performance measurement system that will assist the board in reaching their goal. Historically, TT has focused on traditional financial measures however this is no longer considered to be sufficient.

Recent Financial Statements

Statement of profit or loss

	Year ended 31 March 2024	**Year ended 31 March 2023**
	------------ Rs. in	**million ------------**
Revenue	4,510	4,318
Cost of sales	(4,268)	(3,948)
Gross profit	**242**	**370**
Administration expenses	(126)	(125)
Operating profit	**116**	**245**
Interest	(50)	(50)
	66	195
Tax 29%	(19)	(57)
Net profit	**47**	**138**
Dividend	(20)	(20)
Retained	**27**	**118**

Statement of financial position

	Year ended 31 March 2024	**Year ended 31 March 2023**
	------------ Rs. in	**million ------------**
Non-current assets		
Property, plant and equipment	1,692	1,102
Current assets		
Inventory	29	27
Trade receivables	82	52
Cash	1,087	1,597
	1,198	1,676
Current liabilities		
Trade payables	1,245	1,187
Other payables	377	350
	1,622	1,537
Net current assets	**(424)**	**139**
	1,268	**1,241**
Capital and reserves		
Share capital	100	100
Retained profit	418	391
	518	491
Long term liabilities		
Long term loan	750	750
	1,268	**1,241**

Required:

(a) Evaluate, with the help of suitable calculations, TT's current financial performance and position. **(10)**

(b) Suggest suitable key performance indicators that the board can use, in addition to the current financial measures, for the following four areas that are critical to the future success of the business:

- Financial perspective
- Internal performance and efficiency
- Long term development
- Customer focus **(06)**

(c) Explain the cause of the liquidity problems that the company is facing and suggest methods that TT can implement to manage identified short-term liquidity deficits. **(09)**

Q.3 Azham Beauty Limited ("AB") is a listed company that manufactures halal cosmetics in Pakistan. AB has historically exported products, primarily to the US but also to Asia and the Middle East.

US sales have seen significant growth in recent years and AB has decided that there are practical and political advantages to foreign direct investment in the US to satisfy this customer group.

The AB board decided that the quickest route to the expansion is to acquire a US-based existing manufacturer. A suitable target has been identified; it is a privately owned company called Eleanor Inc. Its manufacturing and distribution operations are located in Arizona. The owners of Eleanor Inc. have indicated that they would be willing to sell the company for USD 20 million.

The following information has been provided to you:

Eleanor Inc.:

- *Statement of financial position as at 31 March 2024*

	USD'000
Non-current assets	
Property, plant and equipment	12,384
Current assets	
Inventory	2,398
Trade receivables	1,123
Cash	397
	3,918
Current liabilities	
Trade payables	983
Other payables	234
	1,217
Net current assets	**2,701**
	15,085
Capital and reserves	
Share capital	1,000
Retained profit	9,085
	10,085
Long term liabilities	
Long term loan	5,000
	15,085

- *Operating profit for the year ended 31 March*

2025 Forecast	**2024**	**2023**	**2022**
------------------------ **USD'000** ------------------------			
1,200	890	810	735

Eleanor's board have advised that the cash earnings can be assumed to be similar to the operating profit.

Azham Beauty Limited:

- *Recent market information*

P/E ratio of AB	16.9
Average P/E ratio for cosmetics industry in USA	15.7
Gearing ratio (D/D+E) of AB	20%
AB equity beta	1.161
Market return	13%
Risk free return	5%
Pakistan tax rate	29%
USA tax rate	21%

- *Finance of acquisition*
  AB has sufficient funds available to support a cash offer. AB currently has significant PKR debt and the board would like to understand how this could be swapped with USD debt to minimise exchange rate risk.

Required:

(a) Suggest a range of values for Eleanor Inc. Briefly explain the techniques that you use in your analysis and advise the board on whether the board should agree to pay USD 20 million. ***(Ignore country risk)*** **(16)**

(b) Advise the board how they could use currency swaps to minimise exchange rate risk. **(03)**

Q.4 QC Investments Ltd ("QCI") is an investment company. Wealthy individuals invest in portfolio products offered by QCI.

QCI are currently reviewing the investments that are to be included within the ZDX portfolio. The ZDX portfolio already includes several investments however the risk profile is too high, and the portfolio manager is considering one of two other investments, P or Q to include to complete the portfolio product to sell to clients.

Existing portfolio

The ZDX portfolio currently generates an average return of 11% with a portfolio standard deviation of 5.12% and a weighted average equity beta of 0.67.

The portfolio manager has been monitoring the performance of investments P and Q and has summarised the performance over the last twelve months.

Potential investments

Investment P			**Investment Q**		
Probability	**Return (%)**	**Equity beta**	**Probability**	**Return (%)**	**Equity beta**
0.2	2.23	0.46	0.2	1.89	0.52
0.5	7.84		0.5	7.09	
0.3	12.10		0.3	13.60	

The portfolio manager will add either P or Q to the portfolio such that 25% of the total investment will be in either P or Q.

Correlation coefficients

ZDX and P	–0.6
ZDX and Q	–0.4

The market return can be assumed to be 15% and the current risk free return is 7%.

Required:

(a) Calculate the risk and return of ZDX portfolio using portfolio theory and CAPM for both alternatives suggested by the portfolio manager. **(11)**

(b) Advise with reasons which model the portfolio manager should use. **(05)**

Q.5 For the purpose of this question, assume today's date is **1 January 2024**.

You have recently started working for SK Textiles Limited, ("SK"), a privately owned company based in Lahore. SK manufactures a range of clothing, a substantial proportion of the business is for a global clothes retailer that operates in Europe.

In November 2023, SK decided to establish a manufacturing plant in France, that will be used to supply the European market. Construction of the new manufacturing plant has already commenced and the final payment of EUR 20 million is to be paid to the construction company at the beginning of June 2024.

SK intends to finance the final payment with new debt finance. The BB Bank in France has already agreed the loan in principle with a fixed rate two-year EUR loan. The bank is unable to confirm the exact interest rate as this will be based on the market interest rates in June. The bank did confirm that the rate would be 1% above the EUR borrowing rate.

The board are concerned that in five months' time, when the loan is needed, the cost of borrowing will have increased, and SK will be locked into a higher interest rate for the duration of the proposed two-year loan.

The board would like to understand how SK can be protected from an increase in borrowing rates over the next five months. Therefore, you have been asked to demonstrate how SK can protect against increasing interest rates using forward rate agreements, futures and options. The information regarding managing interest rate risk is shown below:

1 January 2024	
EUR borrowing rate	4%
FRA	5%
Futures contracts	
Contract size	EUR 500,000 for three months' deposit
June futures	95.70
Assume that any basis changes evenly over time.	
OTC Options	
Strike price	95.00
Option premium:	
Call	1.20%
Put	0.60%

Required:
Explain with the help of calculations how SK can hedge against interest rate risk on the EUR loan. Include a calculation of the effective annual interest cost for each type of hedge.

Assume that on 1 June 2024, the EUR borrowing rate may either:

(i) increase to 6%; or
(ii) decrease to 2%. **(15)**

(THE END)