Certified Finance and Accounting Professional Stage Examination

The Institute of Chartered Accountants of Pakistan

8 June 2021
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 (a) Avion Limited (Avion) is an established supplier of aircraft components to a major aircraft manufacturer who is Avion's main customer. Avion has been offered the choice by its main customer of making component either X or Y next month, but not both components.

Both components use the same metal, which is a carbon steel based alloy, of which 18,200 kg only are available, and costs Rs. 3,125 per kg.

The components are made by passing through two fully-automatic machine lines i.e. Machine Line A and Machine Line B whose monthly operating hours are limited to 5,600 and 6,300 respectively.

The following data is available for the month:

Component details	**Component X**	**Component Y**
Maximum demand **(units)**	9,800	12,600
Target selling price **(Rs. per unit)**	36,250	28,750
Materials – Alloy usage **(kg per unit)**	2.35	2.15
Machine Line A **(hours per unit)**	0.65	0.40
Machine Line B **(hours per unit)**	0.55	0.60
Variable overhead per machine hour **(Rs.)**	15,000	15,000
Production fixed costs **(Rs.)**	20,000,000	18,000,000

Note: Labour costs are included in production fixed overheads as all production workers are full-time salaried employees.

Required:
Determine which component should be made during the next month to maximise contribution and determine the profit that this decision will generate. **(07)**

(b) As an alternative, the board is considering changing its pricing policy to include an opportunity cost element for unused machine hours in the month. The new pricing policy proposed is the current selling price less 10% plus Rs. 15,000 per hour for each unused machine hour."

Required:
Calculate the change in profit resulting for the proposed new pricing policy and comment on your result. **(05)**

(c) The procurement manager has reported a new carbon steel alloy source and that additional 2,500 kg is available at a premium price.

Required:
Calculate the additional alloy that Avion should buy in order to deliver additional units of the component chosen in part (a) subject to any existing machine constraints. Also, recommend the maximum premium to pay as % of the current alloy cost per kg to ensure an overall profit margin of 20% for the month is achieved. **(07)**

Q.2 **It is now 30 November 2020.**

Craft Furniture Ltd. (CFL) is a manufacturing company in the furniture trade which sells quality household furniture to wholesale and retail outlets. CFL's sales have risen sharply over the past six months due to growth in the housing market and a trend to modernise home interiors. CFL is now showing signs of overtrading as inventory and receivables have risen with increased trade. At a recent board meeting, the finance director raised concerns about CFL's short-term liquidity.

Estimated figures for the current year and forecasts for next year, on present cash management policies, are shown below:

Statement of profit or loss for the year to 31 December

	2021	**2020**
	--------- Rs. in million ---------	
Revenue **(N-1)**	520.0	420.6
Cost of sales excluding depreciation **(N-2)**	(299.9)	(234.9)
Depreciation **(N-3)**	(22.5)	(17.5)
Operating expenses	(65.0)	(50.2)
Operating profit	**132.6**	**118.0**
Interest paid	(5.4)	(4.8)
Profit before tax	**127.2**	**113.2**
Tax payable	(30.5)	(28.3)
Profit after tax	**96.7**	**84.9**
Expected dividends	38.7	33.9

Current assets and liabilities as at 31 December

	2021	**2020**
	--------- Rs. in million ---------	
Inventory/work-in-progress (WIP)	62.5	35.0
Receivables	75.0	52.0
Cash	–	2.5
Trade payables	(46.4)	(32.0)
Other payables (tax and dividends) **(N-4)**	(69.2)	(62.2)
Overdraft	(1.1)	–
Net current assets/(liabilities)	**20.8**	**(4.7)**

N-1 All sales are on credit. Official terms of sale at present require payment within 30 days. Interest is not charged on late payments.
N-2 All purchases are made on credit.
N-3 Capital expenditure of Rs. 55 million is planned for year ending 31 December 2021.
N-4 Tax and dividend liabilities at the year-end are paid in the following year.

The finance director has suggested the following methods of improving the cash and working capital position:

Receivables
Offer a 2% discount to customers who pay within 10 days of the invoice date. It is estimated 50% of customers will take advantage of the new discount scheme. The other 50% will continue to take the current average credit period.

Trade payables and inventory
Reduce the number of suppliers currently being used and negotiate better terms with those that remain by introducing a 'just in time' policy.

The aim of the policy will be to reduce the end-of-year forecast cost of sales (excluding depreciation) by 5% and inventory/WIP levels by 10%.

However, the number of payable days credit taken by CFL will have to fall to 30 days to help persuade suppliers to improve their prices.

If the new policies as mentioned above are implemented, interest payments would be Rs. 4.5 million.

Required:
(a) Prepare a cashflow forecast for the year to 31 December 2021, assuming:
  (i) CFL does not change its working capital management policies.
  (ii) CFL's proposed changes to working capital management policies are implemented from 1 January 2021. **(12)**

(b) Discuss the forecast impact of the new working capital management policies on profitability, cashflow, payable days and receivable days and make a recommendation whether or not to implement the new working capital management policies. **(06)**

Q.3 **It is now 1 December.**

The CEO of Zebra Ltd. (ZL) is reviewing the ZL's interest rate strategy for the next few months. There has recently been considerable political instability with some countries showing signs of moving towards economic recession whilst others are still showing steady growth. Interest rates could become more volatile for many major trading countries.

ZL is expected to need to borrow Rs. 130 million for a period of six months commencing in six months' time. KIBOR is currently 4.5%.

Futures and options contracts may be assumed to expire at the end of the relevant month, and ZL may be assumed to borrow at the KIBOR rate.

Interest rate futures prices (Standard contract size: Rs. 10 million three-month contracts)

March	Rs. 95.56
June	Rs. 95.29

Interest rate options on futures prices (Standard contract size: Rs. 10 million three-month contracts). Premiums are quoted as annual %.

Exercise price	Calls		Puts	
	March	June	March	June
Rs. 95.25	0.445	0.545	0.085	0.185
Rs. 95.50	0.280	0.390	0.170	0.280
Rs. 95.75	0.165	0.265	0.305	0.405

Required:
(a) Discuss the relevant considerations when deciding between futures and options contracts to hedge ZL's interest rate risk. **(06)**
(b) Assuming KIBOR has increased by 0.75% at 1 June, illustrate the possible results of:
  (i) a futures hedge (ii) an options hedge

  Also recommend the best solution to ZL. **(11)**

Q.4 QuickCook Ltd. (QCL) manufactures microwave ovens (ovens) from its factory in Lahore, which it exports to several countries, as well as supplying the home market in Pakistan. One of QCL's export markets is Turkey, which has recently imposed a 40% tariff on imports of ovens in order to protect its own local manufacturing industry. The imposition of this tariff means that QCL's products, which are manufactured in Pakistan, are no longer competitive in the Turkish market.

However, the government in Turkey is hoping to attract international investment and create new jobs by offering the following incentives:

(i) Fast-track building planning as well as assistance with legal services to allow for the swift completion of manufacturing premises.
(ii) A government grant, based on 10% of the purchase value of factory, plant and equipment in Turkey. The 10% government grant is not taxable income in Turkey.

The directors of QCL are considering whether to incorporate a new subsidiary in Turkey in order to lease a suitable manufacturing plant near Istanbul which has been identified. The functional currency of Turkey is Turkish Lira (TLR).

The total cost of an investment in Turkey is TLR 105 million (at current exchange rates), comprising:

- TLR 60 million for the factory, plant and machinery, which would be incurred almost immediately.
- TLR 45 million is required to finance working capital at the beginning of the project. Working capital needs are then expected to increase in line with Turkish inflation.

QCL's planning horizon is five years and the investment must be shown to be worthwhile within this timeframe.

The factory including the plant and machinery is expected to appreciate in value from TLR 60 million in line with the level of inflation in Turkey and it is assumed that the site will be sold at the end of Year 5 at a profit. For the purposes of project appraisal, the directors have advised to ignore capital allowances on factory, plant and machinery.

Production and sales of ovens are expected to be 40,000 units in the first year, 60,000 units in the second year, 90,000 units in the third year and 120,000 units per year for Years 4 and 5. At current price level, the price per unit, variable cost per unit and fixed cost will be as follows:

Price per unit	TLR 1,450	Increase in line with inflation rate in Turkey
Variable cost per unit	TLR 500	Increase by 3% less than inflation rate in Turkey
Fixed cost	TLR 12 million	Increase by 3% per annum

All components will be produced or purchased in Turkey except for essential electronic components which will be imported from Pakistan at a current cost of Rs. 800 per unit. This cost is expected to increase in line with inflation in Pakistan.

Assume the timing of revenue, fixed and variable cost cashflows occur at the end of the year in which they arise, unless otherwise stated.

Assume the corporate tax rate in Turkey is 25% and the Pakistan corporate tax rate is 29%. Assume that both tax rates will remain unchanged for the life of the project and both governments require tax to be payable/refundable one year after the tax liability/asset arises. A bi-lateral tax treaty exists between Pakistan and Turkey, which permits the offset of overseas tax against any Pakistan tax liability on overseas earnings.

The current spot rate is PKR 1 = TLR 0.041. The forecasted inflation rates in Pakistan and Turkey are as follows:

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Pakistan	4%	3%	3%	2%	2%	2%
Turkey	9%	8%	7%	6%	5%	5%

The directors of QCL expect that the required return of its investors for an international project will be 3% higher than the QCL's current weighted average cost of capital of 10%.

Existing Pakistan oven production currently produces an after tax net cashflow of Rs. 6,000 million per annum. All production takes place at the Lahore factory which is currently at full capacity. However, existing production is expected to reduce by 10% each year if the investment in Turkey goes ahead.

Required:

(a) Evaluate whether or not QCL should commence manufacturing ovens in Turkey. As part of your evaluation, comment on the cost, price and inflation assumptions made by the Directors of QCL. **(17)**

(b) Discuss how QCL might reduce the impact of restrictions on dividend remittance from Turkey to Pakistan after the investment had taken place if the government of Turkey imposed such a policy. **(04)**

Q.5 SuperSky International Airlines Ltd. (SIL) is a listed, international airline carrier based in Karachi with routes to neighbouring countries, some Russian states and European countries.

SIL currently does not operate a domestic schedule in Pakistan so the board of directors have expressed an interest in acquiring Wings Ltd. (WL), a low-cost regional private airline company which schedules domestic flights between Karachi, Lahore and Islamabad.

Information on WL

WL is an unlisted company with 500,000 issued shares. WL's recent results for the year ended 30 November 2020 are as follows:

	Rs. in million
Revenue	2,970.8
Expenditures other than depreciation	(2,400.0)
Depreciation of property, plant and equipment	(241.7)
Operating profit	**329.1**
Finance charges	(48.0)
Profit	**281.1**

In order to assist with the valuation, the directors of WL have provided the following information and assumptions:

(i) Annual growth for the years 30 November 2021 to 2024 is expected as follows:

Revenue	2.5%
Expenditures except finance charges	2.0%
Finance charges	0.0%

(ii) There is no revenue or cost inflation from 2025 and onwards.

(iii) Annual capital expenditure on aircraft is expected to be as follows:

2021	**2022**	**2023**	**2024**
-------------------- Rs. in million --------------------			
500	400	300	200

(iv) From 2021 to 2024, capital allowances on aircraft are expected to be 10% per annum on a reducing balance basis. The tax written down value on WL's present fixed assets at 1 December 2020 is Rs. 9,000 million.

(v) For 2025, and each year thereafter, annual capital expenditure on aircraft is equal to the cash inflow from tax saved on capital allowances in that year.

(vi) Annual corporate tax is expected to remain at 29%.

(vii) For the years 2021 to 2024, additional working capital equivalent to 10% of the increase in revenue for that year, will be required. Working capital cash flows occur at the end of the year in which the increase in revenue arises.
(viii) For 2025 and onwards, the annual increase in working capital requirements is Rs. 10 million per annum.
(ix) WL has Rs. 1,000 million long-term debt at 4.8% interest per annum.

Information on SIL
The current paid-up capital of SIL is two million shares. Each share is currently trading at Rs. 4,300 per share.

SIL currently has Rs. 2,000 million of corporate bonds. The average maturity of SIL's corporate bonds is 18 years. SIL currently has 'AA' credit rating.

Market information
Quoted credit spread for corporates in the airline sector are as follows:

Rating	1 year	2 years	3 years	5 years	7 years	10 years	30 years
AAA	18	24	28	33	43	57	79
AA	28	37	43	55	63	75	103
A	53	71	77	91	96	103	137
BBB	67	113	133	153	161	169	207
BB	243	278	290	313	320	337	384

Note: The table above is quoted in basis points where 1% = 100 basis points

The current yield on Pakistan government bonds is 3.75% for all bond maturities. The current market return on the Pakistan equity market portfolio is 6.85% and the Pakistan corporate tax rate is expected to be 29% for the foreseeable future.

The average airline industry equity beta is 2.45 at 50% gearing (measured as debt/equity).

Share offer
The directors of SIL are considering making a two for one share offer which will replace each existing WL's shares with two new SIL's shares.

Required:
(a) Determine a valuation for WL's equity shares by using SIL's risk adjusted weighted average cost of capital. **(20)**

As a result of the merger, the directors of SIL expect to make cost efficiencies in the new merged group with a present value of at least Rs. 3,000 million.

Required:
(b) Compare the value of SIL and WL shareholdings before and after the merger to determine if their shareholders are likely to accept the terms of the share for share exchange offer proposed by SIL's directors. **(05)**

(THE END)