ACT EDUCATION

ACT EXAMINATION PAPER

Diploma in Treasury Management (AMCT)

Unit 2: Risk management for treasury

July 2026

Association of Corporate Treasurers

This is a past paper for Unit 2 of the Diploma in Treasury Management (AMCT)

Based on the syllabus assessed from 1 August 2022.

INTRODUCTION

This past paper has been produced by the Awarding Body at the Association of Corporate Treasurers (ACT) to assist students in their preparation for the Diploma in Treasury Management assessments. It is important to highlight that the answers provided in this paper are not exhaustive and that any other reasonable answers would be awarded marks where necessary in a marked assessment. It contains a past exam for the specified unit as well as past answers. Ideally, students should have completed the majority of their Diploma in Treasury Management studies for Unit 2 before attempting this past paper.

Students should allow themselves 180 minutes to complete the exam plus an additional 25 minutes reading time. They should then review their performance to identify areas of weakness on which to concentrate the remainder of their study time. Although the past exam in this guide is typical of a Diploma in Treasury Management assessment, it should be noted that it is not possible to test every single aspect of the syllabus in any one particular exam.

To prepare properly for the examination, students should make full use of the tuition options where available and read as widely as possible to ensure that the whole syllabus has been covered.

ASSESSMENT TECHNIQUE

This paper is a professional paper that as well as testing theory expects application to practice at a managerial level.

The best way to approach written assessments is to work methodically through the questions. You should not spend too much time on any one question if you are struggling to think of an adequate answer. Remember you can flag any question to come back to later should you want to continue your way through the exam.

When all of the questions have been answered, it is prudent to use any remaining time to go through each question again, carefully, to double-check that nothing has been missed. Altering just one response could make the difference between passing and failing.

Please ensure you show your workings within your answer when prompted as this means there are marks available for the workings out. You will be able to make rough workings on a piece of paper during the exam and on screen should you wish to, however these will not count towards your final mark.

ASSESSMENT INFORMATION AND TEST SPECIFICATION

The Diploma in Treasury Management assessments for Units 1 and 2 each have four written questions, of which you must answer three, and will involve a pre-seen case study workbook that is released no later than two weeks prior to the assessment date. The papers will be split into sections A and B and can be made up of either one case study or two case studies; each unit exam is worth a total of 100 marks.

For the purpose of this past paper the questions follow each case study. Diploma in Treasury Management assessment test specification:

Section	Amount of questions	Marks available
Section A	1 case study based question	50
Section B	3 shorter case study based questions, of which candidates choose to only answer two	25 marks each
Total	**3**	**100**

Under exam conditions, **3 hours** (180 minutes) is allowed for the Diploma in Treasury Management assessments plus an additional 25 minutes reading time.

When you take your actual exam, you will be sitting online using your own PC/Laptop. You have access to an online scientific calculator, but for the purpose of this past paper, you may use a non-programmable scientific calculator.

In order for you to determine how well you have performed, sample mark schemes are provided after each question. Please note that these are mark schemes only and not model answers. They provide lists of points that are expected to be covered within answers, although the content of your answers must be much more detailed (satisfying the command word used in the question, for example 'analyse'). As with all mark schemes, the content is indicative only, i.e. the lists of points featured are not exhaustive. It is highly likely that there are other perspectives and, provided these are valid and supported fully, marks would be awarded for these in a live exam. There are also references to the relevant Learning Outcomes if you need to revisit the associated material.

SECTION A

1 long form question worth 50 marks based on a pre-seen case study. This question should test knowledge, analysis, application insight, evaluation, and justification as appropriate to level descriptors. This is a professional paper and application to practice should be at 'management' level.

Total available for Section A: 50 marks

QUESTION 1: CASE STUDY

National Renewable Energy (NRE) was established a few years ago within a government owned energy entity headquartered in Brazil. It specialises in multiple renewable energy generation projects with a primary focus on solar power.

Strongly supported by the government, NRE has been mandated another project to transform its energy portfolio from commercial energy operations to renewable solar energy within a five-year period. Presently, traditional hydropower electricity is not sufficient to meet the growing demand and limited supply, hence alternative and more sustainable energy production is mandatory to keep the electricity grid up and running.

The project will be executed through various milestones, targeting key public and private sectors, including public parks, hospitals, educational institutes and residential areas. The project aims to promote sustainable energy, reduce carbon emissions and ensure its adherence to ethical standards and international norms.

NRE has signed a five-year agreement with a USA-based supplier, Solar Energy Power (SEP), that will provide premium solar panels and powerful battery storage. The solar panel and batteries will be supplied at the beginning of each milestone and NRE will make an upfront payment for each supply. The functional and reporting currency of NRE is Brazilian Real (BRL). The total cost of the project is BRL6bn.

The following data are extracted from the NRE's annual report and financial statements.

BRLm	**2025**	**2024**
Revenue	9,880	5,960
Cost of goods sold	(2,800)	(1,200)
Gross profit	7,080	4,760
Selling & admin expenses	(2,200)	(1,580)
EBIT (operating profit)	4,880	3,180
Depreciation & amortisation	990	750
EBITDA	5,870	3,930
Interest expense	(1,880)	(1,680)
Profit before tax	3,000	1,500
Tax	(1,200)	(900)
Net profit	1,800	600

BRLm	2025	2024
Cash & cash equivalents	1,100	980
Accounts receivable	950	450
Inventory	1,300	1,100
Total current assets	3,350	2,530
Property, plant and equipment	1,880	1,350
Construction in progress	2,940	2,100
Total assets	8,170	5,980
Short-term borrowings	(1,450)	(1,200)
Accounts payable	(1,920)	(1,580)
Total current liabilities	(3,370)	(2,780)
Long-term debt	(1500)	(1,100)
Total liabilities	(4,870)	(3,880)
Total equity	3,300	2,100

Funding challenges

NRE faces a significant liquidity challenge as the solar project is highly capital intensive, requiring substantial upfront capital expenditure. Although NRE operates within an established government-owned energy entity with existing financial activities, the solar project revenue generation will only commence upon completion of the project. As the unit is currently in its early development phase, the lenders' primary comfort at this stage is derived from its status as a government backed entity.

The financial covenants included in the loan agreements of subsidiaries are industry-specific, including requirements such as a minimum current ratio of 1x, net debt to EBITDA less than 2x and a minimum interest coverage of 1.5x. These requirements may present constraints when applied to a project still in the construction and in initial phase. The board expects the ROCE to increase over future years. The gearing ratio will be maintained at 70:30 throughout the entire project.

While the NRE initiative is strategically important for sustainable energy development, it represents a new borrower profile for lenders, thereby increasing perceived credit risk and potentially limiting access to debt funding in the initial stages.

In response, the treasury team is evaluating financing strategies aimed at strengthening the funding and liquidity position during the pre-revenue phase of the project. Given the project's major reliance on external financing, the stability and continuity of funding arrangements are key considerations, particularly where financing is sourced from a limited number of lenders. This becomes especially relevant in periods of rapidly changing market or credit conditions, where access to liquidity may be less predictable over the project life cycle or more challenging to obtain (considering the highly volatile economic financial environment in Brazil).

NRE's financing requirements are significant. The project will be supported by 30% equity and 70% debt. Treasury is evaluating diversified funding sources to efficiently meet the short term and long-term funding requirements. The treasury team is in discussion with a few banks to arrange project financing at least for the pre-revenue stage of the project. This will manage the financing need aligned with business strategies over the project life. NRE currently has no credit rating. For some of the financing under consideration, a credit rating is a pre-requisite.

Foreign exchange volatility

NRE will import solar panels from the USA resulting in a substantial proportion of the capital expenditure being denominated in USD. In contrast, NRE intends to raise project financing locally with all the future revenue generation from the project in BRL.

Historical foreign exchange trends indicate that USD/BRL is a highly volatile currency pair, thereby increasing NRE's exposure to this risk. Any sustained depreciation of the BRL could lead to significant cost overrun which can impact the cashflows, project delay and overall increased borrowings.

Treasury consideration

Given the project tenor of five years and significant capex investment in USD, treasury is evaluating hedging strategies to protect NRE against adverse BRL movement.

The total project cost is BRL6bn, which will be paid semi-annually over five years, resulting in ten instalment payments of BRL600m each. The table below shows the annual projected capex payments in local and foreign currency assuming spot rate for BRL/USD0.1818.

Year	Annual Cost (BRLm)	Instalment repayments (BRLm)	Annual cost (USDm)	Instalment repayments (USDm)
Year 1	1,200	600	218.16	109.08
Year 2	1,200	600	218.16	109.08
Year 3	1,200	600	218.16	109.08
Year 4	1,200	600	218.16	109.08
Year 5	1,200	600	218.16	109.08
Total	**6,000**		**1,090.80**	

QUESTION 1

a.	Evaluate NRE's liquidity and funding risk. In your answer, you must recommend the key considerations for NRE to mitigate these risks over the life of the project.	12 marks
b.	Discuss the possible indicators that derivative counterparties could use to monitor NRE's creditworthiness and ability to deliver financially.	7 marks
c.	i) Evaluate NRE's foreign risk exposure. ii) Recommend **TWO** suitable hedging techniques to mitigate the foreign exchange risk exposure.	8 marks 4 marks
d.	Calculate the BRL cost under each of the following hedging options: i. a six months forward contract using forward rate 0.1780. ii. a six-month USD call option with premium 3%, assuming a spot rate of BRL/USD of 0.1818 and a BRL/USD strike rate of 0.1730. iii. Based on the calculation above, justify the most suitable hedging option for NRE.	3 marks 3 marks 4 marks
e.	Discuss the various quantitative techniques that NRE can use to evaluate the various risks for its first year under each technique. Each technique must include numeric examples assuming BRL depreciation by 10%, an increase in solar cost by 5% and forex volatility by 12% with a confidence of 95% (1.65 standard deviation).	9 marks
		Total: 50 marks

Mark scheme

Q1a

• NRE is a new unit with limited historical financial and cashflow information. This limits standalone credit assessment and increases reliance on government performance and credibility rather than entity level metrics. • At the same time, government ownership enhances the sources of funding, providing lenders comfort and offsetting the lack of historical performance information to a great extent. • In initial phase it is important that NRE capex investment and other project requirements are funded through equity to manage the upfront cost. Any delays or shortcomings in equity can significantly impact the liquidity	1 mark for each valid point 1 mark for each ratio discussed.

position as it will increase the reliance on funding and delay the project until approvals are arranged.

- NRE can have diversified funding sources including but not limited to sovereign's bonds, commercial paper, green bonds (as the project is about renewable energy) and bank loans. This is beneficial to NRE to avoid any reliance on a single source of lending.
- The revenue generation is expected after-completion of the project therefore NRE must arrange a short-term revolving/ overdraft facility to manage its working capital gaps.
- NRE is considering project financing, the initial phase funding is structured based on future cashflows. Once the solar operations are operational (phase wise), NRE must obtain a credit rating from reputable rating agency. This will help to obtain not only diversified sources of funding, but it will also help in obtaining financing at better pricing.
- The project has a period of five years therefore the facility profile must be aligned with the tenor of the project. Funding should be project financing, funding drawdowns aligned with each milestone ensuring adequate capital is available on requirement. The total facility limit should include buffer for any contingencies.
- It is important for NRE to develop banking relationships with a number of banks. It will facilitate NRE not only for suitable financing terms and conditions, but it will also help for trade matters as all solar panels will be imported from the USA, the most secure mechanism is through letter of credit. With good banking relationships, there is more flexibility for negotiation of financial covenants, pricing, and arrangement of funding lines.

Financial covenants review for NRE	**2025**	**2024**
Current ratio = 1x	0.99	0.91
Interest coverage not less than 1.5x (EBIT/interest cover)	2.60	1.89
Net debt / EBITDA not to exceed 2x	0.32	0.34
ROCE (operating profit/ capital employed)	0.95	0.93
Gearing Ratio (Total debt/ Total Equity)	148%	185%

- Considering the industry specific covenants, NRE must carefully negotiate the financial covenants. Presently, the current ratio has improved slightly in 2025 but still breached the covenant. The ratio shows tight short-term liquidity. By managing the working capital efficiently (reducing the receivable aging, increasing days payable and inventory turnover), this ratio can be improved.
- Interest coverage is well above the required threshold. This shows adequate debt service capacity, a more cushion available for borrowing.

- Debt/EBITDA is also in very comfortable ranges. Important point here is that NRE financing for its core project (renewable energy) is yet to start which will add more debts to its balance sheet. The challenge will start once the project starts and NRE will have to maintain this ratio.
- ROCE improved from year 2024 to 2025 by 2% points. This indicates slight improvement in capital efficiency. This ratio has no fixed metrics to evaluate the performance; however, an improvement shows the capital is invested rightly.
- Covenant flexibility must be negotiated at early discussion phase to avoid any breach later.

Total marks: 12

Q1b

- Financials: NRE financials will be the first analysis for lenders to assess the financial health. As it is a new unit and the core project is yet to start, a business plan can support the borrowing request.
- Project progress reports: Lenders and other stakeholders would require project progress report to evaluate the progress achieved or quarterly/ annually, the drawdowns made, readiness achieved.
- Once the loan agreements are signed, the lenders can monitor the progress through compliance to financial covenants. If NRE remains compliant to the financial covenants, it will give confidence to lenders for further borrowings, if required / smooth drawdowns (as the project is milestone based)
- Industry reports on NRE initiative will play a key role. The project is perceived a key step towards sustainable energy resulting a positive narrative on social economic matters. NRE must also keep public updates on project progress and its benefits.
- Liquidity position: By ensuring that committed funds are available for each milestone project payment with agreed debt to equity ratio maintained throughout the project tenor.
- Financial ratios: use financial ratios from related government energy projects, together with NRE performance metrics to evaluate the credit risk.
- Government Guarantee: Obtain government guarantee as assurance to lenders that any potential loss may be recovered by the government.

1 mark for each valid point

Total marks: 7

Q1c

As a treasurer, it is important to identify, quantify and prioritise business critical forex risks. Some of NRE's foreign exchange risks are as below.

- **Pre-transactional risk:** The solar panels will be imported from the USA however the renewable energy business plan will be presented well ahead of the import resulting in pre-transaction risk with respect to the price.
- **Post-transaction risk:** NRE is exposed to post transaction risk since the payment is upfront and payable is in USD. At time of payment, it is unknown how much USD will fluctuate or remain stable resulting in different outflows than expected.
- **Extended transaction risk:** The project is five years long, targeting to achieve one milestone at each year. This tenor puts NRE to an extended transaction risk as BRL/USD is a highly volatile currency pair.
- **Translation risk:** The forex volatility exposure due to capital intensive capex in USD, can impact the financial results for example any BRL devaluation can result deviation from financial covenants (currently considering industry benchmark) as a result the lenders confidence can be shaken as well.
- **Financial risk:** The mismatch of revenue (BRL) and material cost of the capital machinery (USD) will impact the net gain for the shareholders, profits as well as gearing ratios.
- **Economic risk:** NRE's business plan must have a highly accurate projection for the project over the project life. Any adverse movement in the forex rate can exceed the contingencies and result in strategic risk exposure. Any material deviations from projected cash outflow will require additional financing for completion which means additional finance cost and overall cost over-run of the project.
- **Supply chain risk:** NRE will pay to its supplier in USD however it is unknown that the supplier in USA is also importing some components of the solar or batteries from other part of the world including the forex exposure cover in the total price quoted to NRE. This will indirectly expose NRE to supply chain forex risk.
- **Sensitivity to exchange rate:** The cost of the project is material to NRE; hence it is highly sensitive to any change in exchange rate.

Each relevant point has one mark.
Max 8 marks

Mitigation Techniques for NRE for forex risk exposure

- **Forward contract:** NRE can use a forward contract to hedge proportion of forecast future cashflow arising from import deals. This can be done at pre-transaction phase to make future transactions more certain. NRE can hedge the first quarter at 100%, second quarter at 75%, third with 50% and fourth quarter of first milestone at 25%. This way the volatility of the achieved exchange rate will be lower. The actual overall rate is achieved, and cash outflows are more certain. However, this can only cover the nearer term exposures as BRL/USD forward contracts have very limited

2 marks for each hedging strategy
Max 4 marks

availability. To hedge further, NDF contracts would be required which would also carry significant cost in a wide spread.

- **Call option:** though an expensive choice yet making it feasible for NRE, a great choice to lock in rate. Forward option strikes are typically set around forward rate, which already incorporates in BRL depreciation through forward points. In addition, options are priced using Black Scholes, which increases the premium with volatility thus making it an expensive choice.

Total marks: 12

Q1d

Per instalment cost: USD 109,080,000
Spot Rate: BRL/USD 0.1818
Strike Rate: 0.1730
Forward Rate: 0.1780

i) Forward contract:

Forward rate	Cost (USD)	BRL Cost	Spot Rate	Spot cost
0.1780	600,000,000* 0.1780 =106,800,000	600,000,000	0.1818	600,000,000* 0.1818 =109,080,000

3 marks

ii) Call option: USD CALL OPTION

Cost (USD)	Premium cost USD 3%	Premium cost USD	Exercise call cost BRL
600,000,000* 0.1730 =103,800,000	103,800* .03 = 3,114,000	103,800,000+3,114,000 =106,914,000	600,000,000 + 17,128,713=617,128,713 (Premium =3,114,000/0.1818)

3 marks

Comparative view

iii) Recommendation:
Based on the rates given and hedging results calculated above, a forward contract is more economical choice for NRE however this can work for short period (six months contracts which means ten contracts would be required for a period of five years). If the treasury goal is cost optimisation, this works well.

4 marks

Given the high volatility of the USD/BRL exchange rate and the long project tenor, a six-month USD call option is the more suitable hedging instrument for NRE. While the option entails an upfront premium cost, it provides downside protection against BRL depreciation while preserving upside participation in the event of BRL appreciation. This flexibility is particularly valuable during the construction phase, when funding requirements are high and market conditions remain uncertain.

(Flexible marking required)

Total marks: 10

Q1e

The qualitative techniques NRE can use to measure the impact of each risk are as below.

Sensitivity analysis: The key input for NRE is forex risk as it requires to make its payments in USD. Any adverse movement in BRL devaluation can result in an increased pressure on cashflows, cost overrun of the project and ultimately the viability of the project.

Example:
Total project cost = BRL6bn
Total payments = 10 (semi-annual payments for five years)
One instalment =BRL600m
Spot rate BRL/USD =0.1818
Payment due = BR600m* 0.1818 = 109.08m

Sensitivity: 10% BRL Depreciation
BRL/USD = 0.1818* .90 =0.1636
Revised cost = 109.08/0.1636 = 666.7bn BRL

This means 10% appreciation of USD will result in additional 0.667-0.6bn BRL =66.7m BRL extra pay out. This is 11.1% cost overrun per instalment.

Scenario analysis: NRE can analyse possible future events that can result in different outcomes by considering more than one risk at a time. Some of the analysis NRE can conduct is as below.

- What happens if the primary lenders become insolvent? This can crash the liquidity position of NRE, and the project will be at stake.
- What happens if the solar technology does not remain viable after five years and some alternative better technology becomes available?
- What happens if the solar price increases by 5% and BRL/USD depreciates by 10%?

Example:

Scenario analysis	**BRL**	**M**
Annual cost	1,200,000,000	1,200
5% increase in cost	1,260,000,000.00	1,260
Cost in USD	229,068,000.0000	229
BRL depreciates (10%) to 0.1636	1,400,171,149.14	1,400
Total increase	200,171,149.14	200

Value at risk (VAR)
The maximum expected loss that BRE can face for a given period.

Each technique explained 1.5 mark.
1.5 mark for each example.

	Assume that six months forex volatility is 12%. Exposure per instalment= USD109.08m Confidence is 95% (1.65) VAR (USD)= 12%*109.08*1.65 USD21.6m Or by converting to BRL at spot rate of 0.1818 (21.6/0.1818) BRL119m This mark scheme is not exhaustive – all valid points within answers will be awarded marks. **Syllabus refs:** 2.2.2, 2.3.1, 2.3.3, 2.3.4, 2.4.1(b), 2.4.2(a), 2.4.3	**Total marks: 9**
		Total: 50 marks

SECTION B – 50 MARKS

Answer TWO of the following THREE questions. (2 x 25 marks).

Questions test knowledge, analysis, application, insight, evaluation, and justification as appropriate to level descriptors. This is a professional paper and application to practice should be at 'management' level. Candidates are expected to be able to synthesise knowledge from different elements of the syllabus rather than be tested on discrete areas.

Total available for Section B: 50 marks

QUESTION 1: CASE STUDY

Pure Radiance Products (PRP) is a well-established South Korean cosmetic company listed on the South Korean Composite Stock Price Index (KOSPI) with a strong global presence and high consumer trust.

PRP offers a wide range of products, including cosmetics, anti-ageing skincare, perfumes, and vitamin serums. All products are approved by the Food and Drug Administration (FDA); it operates under the strict safety regulations of the government. PRP holds an A+ (stable) rating by NICE (National Information and Credit Evaluation), a top rating agency in South Korea.

PRP's brand name, consistent quality and promising products make it among the top trending brands for decades. The products are available worldwide through drugstores, large grocery chains and online platforms. PRP raises funding through the issuance of shares and corporate bonds to support its research and development (R&D), especially prior to the launch of a new product.

Competition in the skincare market has grown significantly in recent years. Established brands now face pressure not only from new market entrants, but also from the smaller digital or local brands. This intense competition has forced prices down and shortened product life cycles. In addition, skincare products have limited shelf lives, which makes product turnover and inventory management an ongoing challenge.

In recent years, PRP has successfully launched a range of direct application serums addressing anti-ageing, vitamin deficiencies and acne treatments. These products became a key revenue contributor, particularly in North America, Europe and Asia. The sales are denominated in multiple currencies. PRP supplies products directly to global retailers, resulting in high receivables exposure and reliance on efficient working capital management.

There are only a few key suppliers specialising in key ingredients for the PRP skin care range. These suppliers have a niche customer market based on customer brand image, rating and profit turnovers. This is how the products have developed a unique selling proposition and are unbeatable in the market.

At the same time, customer analytics and AI-driven trend analysis conducted by PRP's R&D division indicate a shift in consumer behaviour. One such result found trending searches for acne scar treatments now exceed those for acne treatment products.

In response, PRP decided to launch a new serum specifically targeting acne scars, aimed at teenagers and adults suffering from scarring caused by acne and other dermatological conditions. The product required higher R&D investment, advanced ingredients, clinical testing and aggressive marketing to differentiate itself in a competitive market where other players have already launched this series and established a brand image.

After months of dedicated efforts, PRP successfully launched its new serum in the market. Within a short period of its launch, these serums recorded a huge success in financial terms as well as to brand image. The demand continued to increase, and the products were sold more rapidly online globally.

While the product was approved by the FDA, it was challenged by a new agency who was testing various acne-related products. As a result, it was found that many of these product ranges, including that of PRP, contain a higher quantity of benzene in its formula. When tested by the new agency, it was reported that the elevated quantity of benzene can not only be harmful for the skin but over time its usage can result in cancer.

PRP was instructed by the FDA to recall the product from retail shelves immediately and withhold the products available online from sale. Though the chances for an adverse reaction of PRP serums were low, it was a safety precaution requiring the recall of this specific serum range. This news became public and created concern among customers. A sharp decline in the sale of PRP's other products was seen while social media was flooded with questions on the integrity of PRP products and quality. The social media team responded to the news, clarifying its position and defending the reversal of this specific product was in the interest of customer care. However, the narrative was not taken positively among customers due to the strong brand image of PRP.

This exposed PRP to heightened treasury and financial risks. Due to the investment made in R&D, PRP did not even reach breakeven from this product. Government regulations are very strict. PRP is yet to hear from them to address issues.

PRP's credit rating has since been lowered to 'A', impacting PRP's public bond spread as well.

Relevant selected financials and ratios are shown below:

KRW'000	**Before Recall Q1, 2025**	**After Recall Q4, 2025**
Market capitalisation	80,000	60,000
EBIDTA	1,320	867
Operating profits	1,220	880
Share price	8,000	6,000

EBITDA margin fell from 22% (Q1, 2025) to 17% (Q4, 2025).

QUESTION 1

a.	Recommend the content of an effective risk management framework for PRP using the table provided. In your answer, you must include **THREE** financial and **THREE** non-financial risks.	12 marks
b.	Examine the financial and operational impact of the product recall on PRP's profitability margins.	7 marks
c.	Evaluate the counterparty risk of PRP arising from financial and commercial transactions. In your answer, you must explain THREE risks relating to financial transactions and THREE risks relating to commercial transactions.	6 marks
		Total: 25 marks

Mark Scheme

Q1a

Financial/ Non financial	Risk	IMPACT LEVEL	PROBABILITY LEVEL	PRIORITY LEVEL	Risk Category	Risk Response & Treatment plan
	Define Risk and risk driver with each risk	Rate 1 (LOW) to 5 (HIGH)	Rate 1 (LOW) to 5 (HIGH)	(IMPACT X PROBABILITY)	Catastropic (15-20) Significant (10-14) Moderate (7-9) Low (5-6) Insignificant (1-4)	Action Plans (Avoid Accept Reduce Transfer)
Financial	R&d Sunk cost (due to product recall)	4	3	12	Significant	Allocate budget cap for R&D Implement cost control in other processes to manage this sunk cost.
Financial	Profitability risk (low sales of all products)	3	2	6	Low	Diversify the revenue sources, arrange product recall Obtain sale insurance
Financial	Liquidity Risk (penalities, low inventory turn over, high ageing)	4	3	12	Significant	Reduce-A compatible back up server is essential to avoid any downtime in case the main server runs downs
Non Financial	Reputational risk (due to product recall and social media narrative)	4	5	20	Catastrophic	Halt sales, offer refund and keep clear and timely and clear communication
Non Financial	Operational risk (Supplier Risk)	3	3	9	Moderate	Diversify the supplier Sign at least 3-5 years contracts with exixting to avoid any disruption Add clauses in agreement that cover such unforseen situations
Non Financial	Regulatory risk/ legal/ compliance risk (reputation, penalties, license fee)	2	3	6	Low	Pay the fine. Identify the gaps (regulatory compliance and current position) and fill in the gap.

Total marks: 12

Q1b

- There is a 25% decline in the share price due to market sentiments on the recent recall. This can become challenging for PRP as it raises the funding for its R&D through corporate bonds. If PRP issues new bonds, it will be at much higher cost, lowering the profit before tax/net profit.
- EBITDA has declined by 34%- signalling a deterioration in PRP's operating performance, which has contributed to a fall in share price and bond valuation. As investors perceive PRP a high-risk profile, they can demand a higher return.
- The overall financial results will impact the covenant compliance agreed in the financial documents, leading to difficulty in raising further financing through - bonds or traditional bank loans.
- The new serum had huge R&D cost invested which meaning it did not even reach breakeven at time of the recall. This cost has become a sunk cost, and it will be absorbed in the total cost. This will further squeeze the profits.
- As a result of one product recall, sales were impacted across other products as well. This results in an overall impact on revenue while the operating cost remains stable (does not lower from the impact). This will also result in lowering the profit margin.
- Due to the impact on other products, inventory levels will increase. Some products have a short shelve life which it could result in total loss if they are not sold in time. This can build more liquidity pressure from reduced revenues.
- The deterioration of the credit rating- will increase the cost of raising new debt and reducing net profitability.
- The regulatory fines are not yet imposed. In case material fines are imposed, they would pressure liquidity and impact the net profitability.

Total marks: 7

Q1c

Credit risk arising from commercial transactions:

Commercial risk arises from a counterparty where customers fail to pay for goods and services, or a supplier fails to deliver goods or services that have already been paid for. Some of the risks for PRP are as below.

3 marks for commercial transaction risk

- The supplier of key ingredients for skin a care product has a niche market where supplying the key products is subject to brand image, rating, and profitability. Product recall or reputational damage can result in discontinuation of further supply, resulting in contractual obligations. This can create credit risk as PRP may have prepaid to the supplier and later unable to recover the cost, leading to financial loss.
- The product recall/ reputational damage resulted in lower sales of other products, which can result in the default risk of retailers, to whom the products are already supplied. As a global supplier of its products, there

3 marks for financial transaction risk

could be varying terms of business with different retailers which exposes PRP to credit risk in trade receivables resulting in potential financial losses.

- Relying on few suppliers for key ingredients results in concentration risk . Failure of supply of key ingredient can result in losing contracts with key partners for not delivering the products, awarding contract at much higher prices to alternate supplier resulting financial losses

Credit risk arising from financial transactions:
Transactions involving financial instruments resulting credit risk

In PRP case some of the risks are as below.

- The deterioration of PRP's credit rating from A+ to A may restrict its access to funding sources, potentially affecting the treasury's ability to manage operations efficiently.
- A higher credit spread may pose challenges, as investors are likely to demand higher returns on corporate bonds. However, this shift may be temporary depending on a long-term market response.
- Financial losses, including R&D costs and potential regulatory penalties, may make it difficult for PRP to meet its financial obligations, such as corporate bond payments, dividends, and loan repayments, increasing the risk of default.

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.[

Syllabus Refs: 2.1.4, 2.2.1, 2.2.4, 2.3.2, 2.3.4, 2.4.2, 2.4.3

Tota l marks: 6

Total: 25 marks

QUESTION 2: CASE STUDY

Melt & Weld Tech (MWT) is a mid-size technical manufacturer of aerospace, defence and power systems. It is headquartered in Sydney, Australia. It supplies engines, navigation systems and secure communication hardware. MWT has a global presence in Europe and the USA.

MWT has historically been considered a good employer, offering competitive market packages to attract and retain good talent. At the time of its establishment, MWT introduced an unfunded defined benefit pension scheme (DB) as part of its compensation benefits. During the early growth phase, the scheme largely remained unfunded for a decade to avoid any liquidity pressure. To provide assurance to pension trustees, MWT offered collateral in the form of a mortgage to its various properties.

The DB benefit was based on the final salary and number of years of employment with MWT. The unfunded DB continued for a decade. After pressure from the pension trustees, MWT then decided to keep the DB plan partially funded with only 30% contributions towards scheme liabilities. For this purpose, it engaged a pension fund manager (AMC) to manage its pension investment and administration. Employees personal records are held electronically, including sensitive and private information covering salary detail, bank account detail, passport detail, choice of investment and life insurance detail. AMC kept the digital records.

AMC was responsible for managing the assets of the scheme while MWT was held responsible for the future obligations and any deficits in the scheme. This continued for almost 20 years. Original members are now eligible for the pension and have expressed their satisfaction from benefiting from the scheme.

As inflation continued to increase and with poor investment returns, the present value of the future obligations exceeded the current value of the assets and resulted in a scheme deficit. It happened during a phase where MWT was growing vertically by making significant strategic investments. There were loan obligations on a quarterly basis. Due to these commitments, MWT faced liquidity pressure for the shortfall and decided to end this scheme for new members and for future benefits of current members.

In replacement and as part of their compensation and benefit package, MWT offered a defined contribution (DC) scheme for employees who have been employed for more than three years. Currently, 4,000 employees are eligible for the scheme.

Under this scheme, both employees and the employer were to contribute 10% (each party contribution) of the salary to the scheme every month. The scheme is outsourced and is managed by AMC. Once contributions are made, MWT has no contractual obligation to guarantee return on investment at retirement or retirement benefits. The accumulated pension benefits to employees are dependent on the performance of the investment, interest rate, tenor and inflation during the contribution period. Employees may access the accumulated benefits after a minimum participation period of five years, with a maximum investment horizon of 20 years (subject to employee age and local Australian tax pension legislation).

AMC invests the contribution in diversified portfolios including government treasury bonds, treasury notes and investment grade corporate bonds. This strategy is implemented to provide stable returns and securing the capital invested as 50% of the contribution is made directly by the employees.

During high inflation and falling interest rates, the value of the investment is at risk. When inflation rises faster than the yield on investment, the returns might not offset the rising consumer prices leading to lower real returns on the investments. In other words, the present value of the future returns might not

be sufficient at maturity. Employees who retire after a short service period, such as five years or less, may receive pension benefits with a lower-than-expected value.

To facilitate the employees as investors of the pension scheme, AMC has launched its own software app. This will be more helpful for DB members. Through the app, they can view the investment performance, make redemptions and invest in other plans provided under AMC risk portfolios.

Recently, it was reported that there were some cyber security attacks that impacted the application users and placed sensitive data at risk. AMC is now working to add multiple security steps to ensure data is not breached and only authentic users can access the app and other information. Additionally, the retired members will also be provided with awareness sessions of cyber security best practices so that no sensitive data is shared with any third party.

As part of the digital transformation strategy, MWT has begun exploring the use of crypto currency and blockchain-based solutions within its operation and payments. Most of MWT customers are already trading with stable coins across Europe and the USA.

While the discussions are under consideration, treasury has suggested to consider accepting cryptocurrency payments from international customers and allocating a small portion of surplus corporate cash to crypto-linked investment products. Whilst these initiatives are intended to improve transaction efficiency and enhance returns, they introduce new risks.

QUESTION 2

a.	Compare the defined benefit scheme and defined contribution scheme in the context of MWT's shareholders and treasury risks.	12 marks
b.	Assess **SIX** types of cyber security risk that MWT could face in relation to AMC's pension management.	6 marks
c.	Analyse the benefits and considerations of utilising crypto currency into MWT's treasury and capital management.	7 marks
		Total: 25 marks

Mark Scheme

Q2a

Defined benefit scheme: • MWT is not liable to contribute cash to the scheme (initially) or can contribute a certain percentage (30% later). This eases the liquidity pressure unless a deficit arises. • As a result of the deficit, there will be an increase in future obligations impacting the balance sheet. This can be problematic for MWT's credit profile and raising further borrowings. • In future, at time of maturity, the scheme deficit will increase pressure on cashflow. This can significantly disturb the other ongoing commitments. • Members from the early DB schemes are now benefiting from the scheme while it is mentioned that twenty years have been passed with funded contributions and for a decade it remains unfunded. The longevity of the members can increase the liability cost for the scheme. • MWT is responsible for the performance of the investment portfolio. Any poor performance will result in scheme deficit, an increase in liability for MWT. It is an added risk. • The DB scheme is a long-term commitment. Any fluctuation in the interest rate, inflation can reduce the value of the asset, increase the liability thus impacting the shareholders' value. **Defined contribution scheme:** • The DC scheme is based on individual contribution and job tenor. MWT's obligation is limited to contributions in the scheme, with no promise of future benefits. • MWT's responsibility is limited to timely contribution each month which lowers the financial exposure, adding no liquidity risk and balance sheet risk. • There is no demand/ pressure from employees on the investment pot since the contribution is a percentage of the individual employee policy.	1 mark for each valid point 6 marks for DB scheme & 6 marks for DC

- Employer contribution to the scheme is an additional cost, similar to salary expenses. These contributions are made on monthly basis and treated as operational cost.
- The investments are administered by AMC. Under this scheme, the investment risk and performance risk belong to the employee. MWT is only responsible to ensure no mismanagement or fraud occurs in the scheme. More of oversighting role rather than performance of investment. Poor performance can result in lower rate of return which can add reputational damage, increasing the demand for MWT support/intervention.
- MWT can provide this compensation benefit to attract and retain great talent while not managing the scheme, it can invest its human resource and time in more productive projects.

Total marks: 12

Q2b

Type of cyber-attack:

- **Ransomware:** The pension managed by AMC could be targeted by ransomware attack where hackers can access/ decode the sensitive data and demand payments to restore the access. During this phase, the pension payments can be delayed, the data can be compromised. Pensioners are vulnerable because they rely on regular income in form of pension. They have limited ability to recover their accounts adding more financial and personal stress.
- **Hotspot sniffing**: Older pensioners are less aware of advance security measures and may easily fall a victim of this attack by using public Wi-Fi like at airports, malls, there are chances that login credentials are intercepted by the attackers, giving them access to pensioners accounts. There is software's are available to prevent this attack.
- **Side jacking:** Pensioners may not regularly monitor their accounts or log out properly as a result active session data can be stolen, leading to unauthorised transactions. If the application does not use protected session management (e.g., HTTPS with proper encryption), attackers can steal recently used cookies and hijack active user sessions. These cookies often contain the username and passwords.
- **Social media profiling/identity theft:** Pensioner often share personal information/ detailed information easily on social media/ other platforms without realising the various data risks associated with it. The cybercriminals collect the sensitive pensioners data from social media profile (publicly available data) and use to create a composite profile, through which they can gain access to the pension account. Attackers may find them an easy target as they might not activate advance security protocols in the security/ privacy settings.
- **Phishing:** Attackers may send fraudulent emails, messages, or calls pretending to be from AMC or sometimes even they obtain close family member data and contact through social media, parcel deliveries,

1 mark for each risk mentioned and explained.

requesting login details, OTPs, or bank information. Retired members are usually not aware of this trap and can share such sensitive information.

- **Man in the middle:** Pensioners devices may lack security updates in the system. They may not even notice any interception due to any device that lies between the AMC server and the pensioners location can execute man in the middle attack, which intercepts and modifies data exchanged, between two systems. It can be a legitimate server or even a legitimate client. This makes pensioners more vulnerable to this risk.

Total marks: 6

Q2c

- An increasing number of businesses around the globe are using bitcoins and digital assets for investments, operations, and transactions. This will provide MWT more diversified options to manage its treasury and conducting transactions.
- Crypto can facilitate more efficient cross boarder transactions with international suppliers in cases where traditional banking payments are more time taking or costly. This is more relevant for import of various components.
- This option will diversify the sources of liquidity and revenue. Traditional modes are normal course of doing business, new way will certainly add more avenues for MWT.
- It will add more transparency. Real-time transactions in crypto allows real time accurate revenue realisation. MWT can reduce its receivable aging if any through crypto transactions/deals resulting in direct impact on the balance sheet.
- MWT may be positioned better among its competitors if it adds crypto specifically if it's the first in its business sector to introduce it.
- Using crypto can increase transparency and accountability of a transaction through real time settlements. It also reduces reliance on traditional banking challenge for day-to-day investments settlements of international remittances.

Total marks: 7

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.

Syllabus refs: 2.2.4, 2.4.4

Total: 25 marks

QUESTION 3: CASE STUDY

Rabata Nile private Limited (RNL) is a telecom operator headquartered in Cairo, Egypt. It started operations seven years ago. The telecom market dynamics of Egypt are highly competitive; there are three international operators and one national operator providing telecom services to a population of over 100 million people. There is rapid growth in digital services; as a result, there is strong demand for mobile data across all age groups. As competition is high, the market is highly sensitive to pricing.

RNL's network is providing quality services at slightly lower competitive rates to gain market share. The network and technology currently support 3G and 4G technology. During Oct 2025, the National Telecom regulatory authority (NTRA) announced that it will no longer support the operators using 3G. The management then decided to expand RNL's network by investing in core network enhancement that can support 5G. This was essential to remain resilient within the telecom industry.

The capex investment is significant and RNL requires funding to support this project. Presently, RNL has a small finance team performing various treasury activities, including bank reconciliations, investments in government bonds and banking relationships. As the operations were limited, a basic enterprise resource planning (ERP) system was implemented for finance and treasury.

As RNL was engaging with various financial institutions for diversified funding and import related activities for its strategic investment in technology, the management decided to formalise a dedicated treasury department. A few senior positions were filled through internal hiring, as these individuals were already performing managerial reviews of treasury from previous practices. For junior positions, external candidates were hired.

RNL secured new financing from various banks. Some banks offered short-term loans, while others supported by offering long-term loans. One of the banks also offered asset finance for the import of telecom equipment from various international suppliers through letters of credit.

As operations were growing, management also decided to implement an enhanced and more reliable ERP which could bring some automation to various treasury and finance roles. There was also more focus on minimising manual reporting and replacing it by generating reports directly from the new ERP. The treasury function and the new ERP system were both implemented simultaneously.

The treasury department faced multiple challenges. As the treasury function was newly established, the operational team was new to roles which led to the emergence of certain operational gaps. Due to increasing workload and tight reporting timelines, tasks were often performed based on convenience rather than defined procedures. Formal process documents were still under review for the new ERP implementation, and some activities were carried out based on past practices rather than approved standard operating procedures. The managers were too busy to guide the new team members. As a result, many of the transactions were performed by who had understanding or experience separate to their role and reporting lines.

Transaction approvals in most cases were obtained informally through emails or verbal confirmations before being processed in the ERP, as the system-based authorisation matrix had not yet been fully structured.

In addition, access to physical and financial resources was not always tightly controlled. For example, petty cash was kept in an office safe, with keys accessible to all treasury team members to facilitate any urgent requirement. There was no dedicated custodian for the safe.

System access within the new ERP environment was also broadly assigned during the transition phase to avoid delays in processing, resulting in overlapping responsibilities. Transaction limits, validation checks and approvals were yet to be assigned. Supervisory reviews were dependent on manual sign offs of the vouchers rather than automated reports. For example, the transaction initiator had the rights of not only initiating the transaction but also to approve it in the system. The supervisor role was to check and sign the printed voucher post transaction booking and approval in the system. Any mistake in the general ledger would mean booking another reversal transaction in the system.

As treasury activities were increasing including banking operations and relationships due to the addition of multiple new banks for financing facilities, foreign payments and trade management, the absence of clearly defined reporting lines, structured review mechanisms and documented control frameworks increased the risk of errors, unauthorised transactions and delayed reconciliations.

The senior management roles (signatories) were correctly implemented in the new ERP as per the banking operations board resolution. However, much of the oversight was reactive in nature, addressing operational issues as they arose rather than through a formally embedded control environment.

These operational challenges highlighted the growing need for a more structured governance and control framework within the treasury function to safeguard assets and ensure sustainable risk management.

As RNL's business had grown, the current office was not sufficient to accommodate the employees. RNL relocated to a larger corporate office under a long-term lease arrangement and recognised the lease liability in its financial statement. In addition, the bank borrowings increased significantly to support the capital expenditure on network upgrades and other telecom equipment from international suppliers. International payments for expansion and capex requirements also increased. These arrangements exposed RNL to multiple risks including interest rate risk, liquidity risk, counterparty risk and forex risk. With the increased use of structured loans and capex expansion, the complexity of financial reporting and disclosure requirements under IFRS 7 also increased.

QUESTION 3

a.	Recommend TEN key internal controls that should be implemented within the RNL treasury function to mitigate operational risk.	10 marks
b.	Discuss the principal of external risk reporting and how RNL ensures compliance with audit and international accounting standards in its financial risk disclosure.	6 marks
c.	Recommend, for ONE of RNL's financial risk, components of key policy requirements it should implement.	9 marks
		Total: 25 marks

Mark Scheme

Q3a

• Strong operational controls are important for RNL as it has a new treasury function as well as implementation of a new ERP which is not a basic one. • These controls will help in reducing fraudulent activities, financial misstatements, errors or any other regulatory, legal risks or reputational risk. **Controls to mitigate the operational risks.** • Organisational and procedural control: RNL must establish a clear treasury policy document assigning roles and responsibilities of job and clear reporting lines. Each person should have an up-to-date job description unlike the current situation where roles are performed to address immediate requirements. • Authorisation control: RNL has implemented bank signatory roles in its ERP. The choice of counterparty has been finalised too as they have obtained the diversified loans however in ERP there is a need of formal matrix (not approved yet) that will enable the assigned team members for executing loan repayments, establishing letter of credit, locking investment deals and other treasury activities. • Physical Control: Keeping important devices, records, equipment in safe custody whether they are electronical or physical. Additional layer through passwords, secure storage and controlled access helps prevent the loss of important documents. • Segregation of duties: No two employees can perform the same role in a process. Currently the initiator can book and approve the transaction which is a conflict of interest. This in RNL's case is an exposure to errors and fraud as	1 mark for each control mentioned and explained valid point.

the team is new. RNL must also ensure that all team members do not share their system and ERP passwords.

- Personnel Controls: Currently, there is a gap between new team and old supervisors/managers. The team is new and senior management team members are occupied in other engagements. RNL must ensure that the team gets proper training and specially within treasury.

- **Limits and validations:** Several limits and validations are needed at RNL to ensure controls are implemented within operational procedures defining who is authorised to do what. For example, within treasury, what is a daily payment limit? Who are the authorised financial institutes to deal with? What is the trade size and with whom to deal with?

  Validation includes internal and external validation. Internal is all about the roles and rights given to each staff member with the authority matrix of the ERP and external takes place by matching the bank's and company's deal confirmation. The sooner confirmations can be reconciled, the better it reduces the risk.

- **Supervision:** RNL must ensure transactions are recorded without any delay in the system to ensure transactions are settled, approved, and confirmed in the system. This enables the reconciliation process to be faster and smoother.

- **Management control:**

  I. **Reporting:** All the processes must be reported for better performance.
  II. **Independent review of treasury and reports:** Internal audit can add another layer of added control by observing any unusual trends or numbers. In RNL case, the polices are still under review and current practices of performing multiple roles is a conflict of interest. Internal Audit can question this practice.
  III. **Establishing process measurement and KPI's:** Tracking key processes such as confirmation speed and failure rate, the control environment is improved. For example, by automating the processes, RNL can achieve this control.

- **Reporting:** System generated reports provide more accurate and up to date data. A good ERP can generate various reports as required by RNL which is important for analytical purposes apart from reporting.

Total marks: 10

Q3b

- **Risk management disclosure regulations:** RNL treasury must understand the regulatory disclosure requirement to support/ write the disclosures in annual financial statements.
- **Legislation and financial reporting standard:** RNL must include the disclosure of the nature and extent of the financial risks which includes the liquidity risk, interest rate risk, forex and credit risks.
- **Best Practices of risk reporting and disclosure:** RNL must provide adequate information that provide an informed view to its stake holders. Incomplete or commercially sensitive data should be avoided.
- **Risk reporting compliance:** RNL risk policy and the outcomes will determine the risk compliance. Any deviation between the policy and performance will highlight the gaps in the risk management process which needs to be addressed.
- **Governance and external risk reporting:** The financial information provided by RNL to all its stakeholders must be correct, complete and verifiable. RNL treasury must add the required information in its financial by assuring its accuracy and completeness.
- **Audit:** RNL should appoint a suitably qualified and independent audit firm to review and verify its financial risk disclosures to ensure its compliance with accounting standards.
- IFRS 7 is concerned with the disclosure of the extent of financial risk arising from the use of financial instruments and how the risk is managed.
- Financial assets such as bank balances and short-term investments must be disclosed.

Financial risk disclosure

- **Liquidity risk:** the disclosure must include the maturity of financial liabilities using discounted cashflows, how RNL will manage the liquidity gaps for significant capex investments.
- **Interest rate risk:** Since RNL recently got engaged for diversified loans including the long-term loans, the disclosure must include sensitivity analysis of variable rate borrowing. This is also important for RNL cashflow analysis.
- **Forex risk:** the disclosure is required due to capital intensive imports for strategic projects. In telecoms, the imports are an ongoing requirements for operational and maintenance as well hence any devaluation of local currency can lead to forex risk.
- **Credit risk:** under IFRS 7, RNL must disclose ageing analysis, impairment allowances, expected credit loss (ECL) methodology, any collateral /restricted cash/lien held against funded or unfunded facilities.

1 mark for each valid point.

Total marks: 6

Q3c

Policy name	Liquidity risk management
Policy objective	To ensure RNL maintain sufficient cash and funding capacity to meet its financial obligations for working capital and strategic investment in 4G technology.
Policy direction	Treasury shall proactively manage cashflow, funding sources, loan repayments, and other obligations to avoid any cash flow gaps.
Risk limit	Maintain at least two months operational expense as cash buffer or maintain a certain percentage of cash buffer to meet any contingency plans.
KRI's (measurement)	Cashflow forecast & variance analysis, covenant compliance, committed and uncommitted facilities, undrawn facility limits, and further commitments
Benchmarking	Loan covenant, receivable ageing, and liquidity levels as per telecom industry of Cairo, Egypt.
Responsibility/ oversight	Jr. Treasurer updating the cash position on daily basis, Treasury manager reviewing the cash position and CFO making important decisions.
Procedures	Prepare rolling 13-month cash-flow forecast, identify cashflow gaps and make strategy for the gaps.
Decision making	As per the board resolution of RNL
Key Control Indicators (KCI)	Timely booking and reporting of cash-flow forecast, adherence to liquidity limits as per allowed limits and permitted institutes/instruments.
Reporting/ Feedback	Monthly comprehensive treasury reports to be presented to management. Frequency can be adjusted as per RNL management requirement.
Continuous improvement	Perform periodic stress test analysis based on market condition on factors that can impact cash flows like interest rates, forex movement.

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.

Total marks: 9

Syllabus refs: 2.1.3, 2.4.4, 2.5.2, 2.5.3

Total: 25 marks

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