ACT Practice Paper

Certificate in Treasury Unit 1

Practice Paper

Practice paper for the Certificate in Treasury Unit 1

Based on the syllabus assessed from 5 September 2022

Introduction

This practice paper has been produced by the Awarding Body at the Association of Corporate Treasurers (ACT) to assist students in their preparation for the CertT assessments. It contains a practice exam for the specified unit as well as practice answers.

Ideally, students should have completed the majority of their CertT studies for Unit 1 before attempting this practice paper. Students should allow themselves 120 minutes to complete the exam. They should then review their performance to identify areas of weakness on which to concentrate the remainder of their study time.

Although the practice exam in this guide is typical of a CertT 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, candidates 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: CertT

The best approach to multiple choice assessments is to work methodically through the questions.
Candidates should not spend too much time on any one question. If they cannot make up their mind, they should leave the question, flagging it to come back to later.

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 incorrect response to a correct response could make the difference between passing and failing.

Assessment information

The CertT assessment consists of 64 questions, split into sections A, B and C; each assessment is worth a total of 100 marks.

CertT assessment test specification:

Section	Number of questions	Marks available	Question format
Section A	20 Multiple Choice questions (MCQs) and 10 Multiple Response questions (MRQs).	30	This section will test a cross-section of knowledge to achieve breadth of syllabus coverage.
Section B	30 MCQs based on mini scenarios (1 scenario with 5 accompanying MCQs).	30	This section will test a cross-section of knowledge to achieve breadth of syllabus coverage.
Section C	4 longer form questions.	40	This section will be based on mini-scenarios common to practice. Questions will test knowledge, analysis, application and justification as appropriate.
Total	64	100	100

Under exam conditions, **2 hours** (120 minutes) is allowed for the CertT assessments.

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 test, you may use a non-programmable scientific calculator. There is a formulae sheet located on page 28 that will also be accessible during your online assessment.

In order for you to determine how well you have performed, exemplar answers are listed at the end of this paper. There are also references to the relevant Learning Outcomes if you need to revisit the associated material.

Section A – 30 marks
This section consists of 20 Multiple Choice questions and 10 Multiple Response questions

A01 Which of the following is the present value of a receipt of SGD100m which is expected in two years' time if the appropriate cost of capital is 3.5%?

A SGD96.6m.

B SGD93.4m.

C SGD99.7m.

D SGD95.2m.

A02 Which of the following is the annual effective rate on a GBP10m deposit paying interest monthly at a rate of 2.5% nominal?

A 2.53%.

B 2.48%.

C 2.50%.

D 2.32%.

A03 Which of the following responses to an identified risk event demonstrates the most risk tolerant approach?

A Accept and retain.

B Accept and reduce.

C Avoid.

D Accept and transfer.

A04 Which of the following defines a par bond?

A bond whose yield represents:

A its coupon rates.

B what the investor is willing to pay.

C the inherent risk of the investment.

D prevalent market rates.

A05 A business has to meet an interest expense budget of USD2.5m, so needs to manage its level of borrowing. Its budgeted interest rate is 4.5% and opening borrowings are USD80m.

What is the minimum closing balance the organisation must achieve to meet its budget?

A USD65m.

B USD125m.

C USD31m.

D USD70m.

A06 A proposed investment is expected to produce annual net cashflows of EUR2m for 20 years, starting in one year's time, the annual effective cost of capital being 2.75%.

Using an annuity factor to calculate the present value of these cashflows, which of the following is the value of the proposed investment?

A EUR30.45m.

B EUR20.14m

C EUR32.33m.

D EUR22.21m.

A07 How does the concept of arbitrage help to ensure that the interest rate parity theory holds true?

A Corporate treasury trading disrupts markets but arbitrage realigns them.

B Banks will only trade at rates that hold with the theory as arbitrage ensures good value.

C Misalignments in markets will be exploited by FX traders to eliminate risk free gains.

D Arbitrage ensures that foreign exchange losses can never be balanced by interest rate differential gains.

A08 On which of the following days will a USD:GBP spot trade settle if today is Thursday and Friday and the following Monday are public holidays?

A Monday.

B Wednesday.

C Thursday.

D Tuesday.

A09 Which of the following is the most likely use of a forward yield curve?

The curve represents:

A the rate a corporate can issue future bonds.

B the market's expectation of future interest rates.

C the cumulative yield when coupons are absent.

D the forward foreign exchange market.

A10 Which of the following is the appropriate discount factor to use to calculate the net present value of a receipt due in 3 years' time if the prevailing cost of capital is 4%?

A 0.889.

B 0.925.

C 0.878.

D 0.973.

A11 A company has issued a discount instrument with a face value of USD10m, a maturity of 45 days and an annual discount rate of 3.25%.

Which of the following are the proceeds of the issue?

A USD9,874,563.

B USD9,959,539.

C USD9,960,091.

D USD9,953,623.

A12 Which of the following pairs of duties would it be appropriate to segregate between a front and back office?

A Confirming the deal with the counterparty and authorising settlement.

B Initiating and authorising settlement via an appropriate bank account.

C Authorising the position and deal execution.

D Analysis of the exposure and settlement of the proposed transaction.

A13 Which of the following statements relating to a discount instrument is true? It:

A pays face value at maturity which is less that the value at issue.

B pays a return by being sold at a discount with face value paid at maturity.

C allows the purchaser to borrow money at prevailing market rates.

D is sold at a discount to prevailing market rates on issue.

A14 Your finance director is considering an investment in a project. The cost of capital for this project is 5.5%. Which of the following is the discount factor that would apply in year 3 when calculating the net present value of the investment?

A 0.898.

B 0.863.

C 0.852.

D 0.948.

21 A discount instrument with a market issue price of GBP11m is issued with a maturity of 91 days, when it will return GBP11.15m. Which of the following is the periodic discount rate of this discount instrument?

A 1.35%.

B 5.39%.

C 5.46%.

D 1.34%.

A16 Given the market information below, at which of the following rates would a corporate exchange USD for the immediate purchase of goods from Brazil?

Currency pair	**Spot**	**Three months' point**
USD:BRL	3.8958 – 3.8965	254.34 – 274.34

A 3.9212.

B 3.8958.

C 3.9239.

D 3.8965.

A17 A back office team within the treasury function is usually responsible for:

- **A** ensuring that all deals are within the internal limits for each counterparty set by the board.
- **B** deciding the most appropriate response to the risks identified.
- **C** analysing positions to understand the magnitude of the risks faced.
- **D** executing proposed transactions with banks at the best price.

A18 Which of the following statements relating to participants in the foreign exchange market is true?

- **A** The market taker buys the variable currency at the offer price.
- **B** The market maker buys the variable currency at the offer price.
- **C** The market maker buys the base currency at the offer price.
- **D** The market taker buys the base currency at the bid price.

A19 Which of the following statements explains why FX rates differ in the spot and forward markets?

- **A** The rates reflect the supply and demand for the relevant currencies at different time periods.
- **B** There is less certainty forward so the rates are always more expensive in the forward market.
- **C** The forward rates take account of interest differentials in the relevant countries for the appropriate period.
- **D** Forward rates take account of the risk inherent in the foreign exchange markets for the appropriate period.

A20 Given the following market rates, what is the forward rate for the purchase of AUD in three months time?

	Spot	**Three month**
USD/AUD	1.4285 – 1.4395	76.30 – 74.70

- **A** 1.43613.
- **B** 1.44697.
- **C** 1.42087.
- **D** 1.43203.

A21 Which of the following are disadvantages of a decentralised treasury structure?
Select ALL that apply.

A Lack of capacity to undertake speculative treasury operations.
B Lack of local autonomy can effect local banking knowledge and relationships.
C Similar treasury tasks will be replicated across group subsidiaries.
D The need to deploy sophisticated treasury systems across the organisation.
E A lack of economies of scale in banking services.

A22 Which of the following are advantages of a cost centre approach to treasury?
Select ALL that apply.

A It encourages innovation within the treasury team.
B It aims to minimise the impact of financial volatility on treasury operations.
C It allows treasury risk to be managed with a view to adding value.
D It allows treasury to monitor the market when trading is advantageous.
E It allows commercial decisions to be taken with reasonable certainty.

23 Which of the following are benefits of using a web-based portal for foreign exchange dealing?
Select ALL that apply.

A It allows for more complex foreign exchange contracts to be priced.
B It allows banks to provide a more personal service online.
C There is less opportunity for misunderstanding when contracting with the bank.
D More favourable rates are always available on a web-based portal compared to other dealing methods.
E It facilitates straight through processing of confirmations.

24 Which TWO of the following tasks would fall under the remit of cash management responsibilities in treasury?

A Managing large supplier terms and conditions.
B Sourcing funds efficiently from private and public markets.
C Optimising the use of surplus funds.
D Assisting with the organisation's risk management policies.
E Monitoring bank account balances to give transparency over funds held.

A25 Which TWO of the following are characteristics of an in-house bank?

A External transactions are netted to provide relationship banks with a better mix of business.

B Internal foreign exchange positions are netted in order to reduce banking costs.

C Intercompany transactions are netted to eliminate the need for banking arrangements overseas.

D External transactions are netted in order to reduce the requirement for intercompany loans.

E Treasury decisions are made locally but executed under an agency arrangement.

A26 Which TWO of the following are the main roles played by central banks in major developed economies where there is no official rate of exchange?

A The central bank may seek to smooth out fluctuations in currency movements by trading foreign exchange with other central banks.

B The central bank will act as the counterparty in all foreign exchange transactions.

C The central bank will maintain control over the supply of money.

D The central bank may speculate on domestic currency markets where they believe gains can be achieved.

E The central bank will limit the number of imports and exports due to their influence on the foreign exchange rates.

A27 Which of the following are examples of annuities?
Select ALL that apply.

A Annual pension payments.
B Certificates of deposit.
C Zero coupon bonds.
D Corporate issued floating rate notes.
E Fixed rate interest payments on loans.

A28 Which of the following statements explains why a yield curve would be positive?
Select ALL that apply.

A The interest rate parity principle means that longer dated foreign exchange rates determine higher interest rates at the further dates.
B The expectation within markets is that interest rates will rise in the future.
C The forward yield curve will always reflect the difference between the par and zero coupon curves.
D Market participants will expect greater yield for tying up funds for longer periods.
E The supply of funds will always be higher as required tenor lengthens.

A29 Which of the following are the main risks of hedging foreign exchange positions relating to forecast receipts?
Select ALL that apply.

A The rate in the foreign exchange market becomes less attractive than the contracted rate.
B The rate in the foreign exchange market becomes more favourable than the contracted rate.
C Lack of availability of an appropriate cross-rate in the market.
D Due to market changes the counterparty bank decides not to honour the contract.
E There are actual variances in amounts received compared to the forecast.

A30 Which of the following are ways in which treasury can support its aim of preserving cash and financial assets?
Select ALL that apply.

Treasury can:

A centralise its operations at head office.

B promote a culture of sound financial practice.

C ensure it realises a synergy of expertise in the centre.

D manage the financial risk of the organisation.

E ensure it only borrows funds from domestic banks.

This section consists of MCQs based on mini scenarios
(One scenario with five accompanying MCQs)

Case study 1

Major Manufacturing Group (MMG) has operations and supply markets across Western Europe. It sells its products globally. It has a centralised treasury function headed by a group treasurer. A treasury manager's (TM) current priority is to ensure cash is available to meet MMG's day-to-day commitments as it has experienced some challenges in this respect in recent months. The TM is quite new to MMG and has a meeting with a foreign exchange dealer from one of MMG's relationship banks, to gain a better understanding of how the markets operate. The TM is also working with a colleague from finance. They are reviewing MMG's future borrowing needs and are trying to understand the implications for the business if borrowing requirements become higher than planned or if interest rates increase more than forecast. The TM has also been given the task of comparing tradeable instruments, using an implied interest rate that takes into consideration interest payments, market value, redemption value and the time remaining until maturity. The TM's final task of the day has been to contact one of MMG's banks in respect of a transaction and has placed a foreign exchange order to buy at spot.

B01 The TM's current priority relates to which of the following activities?

A Corporate financial management.

B Liquidity management.

C Risk management.

D Share capital management.

B02 The person the TM is meeting from the bank has which type of role?

A Back office.

B Front office.

C Head office.

D Middle office.

B03 Which technique is the TM and their finance colleague using?

A Financial equations.

B Prediction forecasting.

C Rate of return.

D Sensitivity analysis.

B04 The TM is using which of the following to undertake the comparison task?

A Equity.

B Growth.

C Performance.

D Yield.

B05 The bank transaction relates to which of the following?

A A currency deposit maturing next month.

B A currency payment to be made urgently.

C A currency receivable expected soon.

D A currency transaction due in two months' time.

Case study 2

Diversified Holdings Group (DHG) is a large international business comprising numerous individual subsidiaries. It has a small team of treasury specialists working within its head office. The team is available to provide guidance to the subsidiaries when required. One of the DHG subsidiaries is reviewing different investments. Its preferred investment will return EUR145.6m after one period for an initial investment of EUR140.0m. The subsidiary has tasked its treasury manager (TM) with undertaking a review to calculate the real rate of return on a potential investment, on which there are no tax implications. In addition, the TM has contacted the bank and arranged a rate for a future currency transaction. The subsidiary is expecting to receive a large amount of USD from a client in two months' time and the TM wants to fix the rate now. The TM books the rate but the client experiences financial issues and is unable to pay on the due date.

B06 DHG's structure can best be described as:

A agency-based.
B an in-house bank.
C centralised.
D decentralised.

B07 What is the periodic rate of return on the subsidiary's preferred investment?

A 3.8%.
B 4.0%.
C 5.6%.
D 9.6%.

B08 The TM's review will take which of the following into consideration?

A Accessibility.
B Covenants.
C Inflation.
D Tax.

B09 Which of the following has the TM arranged with the bank?

A Currency option.
B Forward contract.
C Increased credit line.
D Overdraft limit.

B10 What are the implications for the subsidiary of its client's financial issues?

The subsidiary:

A can use collateral to avoid all fees.

B has taken insurance so will have nothing to pay.

C has the option of whether to settle or not.

D will still have to settle with its bank.

Case study 3

European Electrical Products (EEP) is a EUR reporting business. All of EEP's costs and revenues are from countries using the Euro as currency. However, EEP has just agreed to source materials from the UK and will have to pay in GBP, representing a new area of risk for EEP's treasury function to manage. The initial order will cost EEP GBP93,750. The EUR/GBP rate is 0.8369 (i.e. one Euro = GBP0.8369). The rate has been booked with an intermediary so EEP will know precisely how much the materials cost in Euros (excluding fees). EEP's treasurer has commissioned a review of existing policies and has prioritised rewriting its internal policy aimed at preventing fraud. The objective is to involve several people in the process of a single deal, from initiation to settlement. EEP currently has surplus funds to invest for a year or so, but the treasurer is concerned about the impact of inflation on the value of the investment over time.

B11 Which of the following is the new risk area for EEP?

A Foreign exchange risk.

B Interest rate risk.

C Liquidity risk.

D Operational risk.

B12 The policy the EEP treasurer has prioritised relates to which of the following?

A Access to confidential records.

B Equal treatment of suppliers.

C Segregation of duties.

D Storage of data.

B13 What type of investment would be the best to address the treasurer's concern?

A Fixed rate.

B Indexed-linked.

C On demand.

D Short-term.

B14 How much is the EUR equivalent that EEP will have to pay its supplier for the materials?

A EUR51,037.

B EUR78,459.

C EUR107,539.

D EUR112,020.

B15 The intermediary that EEP has transacted with is most likely to be which of the following?

A Central bank.

B Commercial bank.

C Hedge fund.

D Pension fund.

Case study 4

High Power Engines (HPE) is a global organisation, with operational units on every continent and both revenue and cost streams in all major currencies. It has employees working in all time-zones. Treasury policy states the use of forward contracts to manage currency risk, because the HPE treasurer likes the fact that there is no fee to pay. Both treasury and finance representatives are involved in Project Ramp. The project is focused on liquidity management with the current phase assessing the organisation's usage of current assets and liabilities. A sub-group within the project team is also involved in evaluating a number of different investment options that HPE is considering. The sub-group is calculating future values of cashflows that might be generated from each option, considering the time value of money.

B16 Treasury's role within HPE is most likely to be influenced by which of the following?

A Complexity of the organisation.

B Credit strength of the business.

C Experience of the treasurer.

D Life cycle stage of the company.

B17 The current phase of Project Ramp is focused on:

A cash management.

B equity funding.

C short-term investments.

D working capital.

B18 The sub-group will be using which of the following in its calculations?

A Bank rate.

B Discount factor.

C Market discounts.

D Yield curve.

B19 Which of the following is likely to represent the greatest risk for HPE due to the nature of its revenue and cost streams?

A Foreign exchange risk.

B Operational risk.

C Reputational risk.

D Settlement risk.

B20 Which of the following would represent the greatest risk to HPE due to the treasurer's preferred method of managing currency exposure?

A If exchange rates changed after taking the action.

B If interest rates increased significantly in the short-term.

C If local inflation rates reduced HPEs buying power.

D If the underlying business transaction is delayed or cancelled.

Case study 5

International Technology Inc (ITI) is a major company operating in business and consumer information technology markets. ITI's general approach to business risk management is one of 'accept and transfer', which it has applied effectively for a number of years. ITI needs to budget for likely interest costs over the coming the year. It already has interest rate forecasts from reliable sources and is in the process of creating the budget. A member of the treasury team has just authorised a short-term deposit of USD500,000 for 60 days at an annual simple interest rate of 2%. ITI trades in most major currencies, including USD, GBP, EUR and JPY but its reporting currency is USD. In recent years ITI has made losses on some transactions where a currency has become less valuable against another currency. The treasurer is keen to understand why this has happened and what ITI could do to protect itself in the future.

B21 ITI's approach to risk management is most likely to involve which of the following?

A Avoiding most risks.

B Ignoring low level risks.

C Managing risks in-house.

D Using insurance to deal with risks.

B22 To budget for its costs ITI will need which of the following pieces of information?

A Average borrowings.

B Forward exchange rates.

C Inflation levels.

D Past payment trends.

B23 Based on a 360 day year, what will be the value (principal plus simple interest) of the short-term deposit at maturity?

A USD501,666.

B USD505,000.

C USD510,000.

D USD516,667.

B24 ITI's annual financial statements will be reported in which currency?

A EUR.

B GBP.

C JPY.

D USD.

B25 The losses ITI has made in recent years are due to which of the following?

A Currency depreciation.

B Economic instability.

C High inflation.

D Interest rate changes.

Case study 6

The Solar Power Group (SPG) treasury function's current primary focus is on managing the capital structure to ensure optimal gearing levels. This has involved consideration of all covenants associated with SPG's borrowing facilities. A number of staff have left the SPG treasury team and it has been difficult finding suitable replacements. As a result, the SPG treasurer is considering subcontracting some treasury activities to an external specialist service provider on a permanent basis. The treasury manager is conducting a review comparing instruments, which they want to evaluate on a common basis. They use a rate that has been adjusted for the effects of compounding to enable a fair comparison. SPG has exposure to a number of different foreign currencies. It uses different techniques to manage these risks including products and services provided by specialist intermediaries who act on behalf of a range of different clients. The treasury manager has been discussing rates with one of SPG's banks. The bank has been asked to provide a rate for a future transaction. The rate it has quoted derives from the spot rate and also takes into account interest rate differentials.

B26 SPG's treasury function's primary focus is on which of the following?

A Bank relationship management.

B Cash management.

C Corporate financial management.

D Treasury operations.

B27 The treasurer is considering the use of which of the following?

A Centralising.

B Delegating.

C Outsourcing.

D Technology.

B28 Which of the following is the best rate for the treasury manager to use for their review?

A Annual lending rate.

B Effective annual rate.

C Internal rate of return.

D Return on investment.

B29 SPG uses which of the following to help with management of its foreign currency exposures?

A Brokers.

B Central banks.

C Pension funds.

D Issuers.

B30 The rate discussed with SPG's bank is known as which of the following?

A Base rate.

B Forward rate.

C Market rate.

D Predicted rate.

Section C – 40 marks
This section consists of 4 case study long-form questions

Question 1

You work as a treasury manager for budget airline Cheapflight plc (CF).

Following the appointment of a new treasurer, CF's board has recently given its approval in principle for commodities trading, with the aim of the treasury department managing fuel costs more effectively.

The new strategy is being implemented during a period of transition for the treasury department, which currently consists of just the treasurer and you as a treasury manager.

The new treasurer has been given additional responsibilities by the board, so will no longer have the time to be involved personally in the treasury dealing process. As a result, approval has been given to recruit two new members of staff to support you with the process in the future, as the number of trades undertaken will increase significantly because of the new commodities trading strategy.

You are now determining the best structure to deliver the new trading policy effectively. The treasurer has left you to decide which activities that make up the dealing process should be assigned to the new members of staff when they join the team.

Currently you execute CF's treasury deals with external counterparties and record them in the treasury management system (TMS). The TMS initiates payments once the treasurer has authorised them. You also provide the accounting entries to the central finance team in relation to the deals.

You are willing to retain or change any of these current processes as you establish the new structure.

a. Recommend and justify a new structure for the commodity trading process that will utilise the new staff most effectively.

(7 marks)

b. Outline **THREE** key objectives you would wish to achieve as a result of restructuring CF's treasury team.

(3 marks)

(Total 10 marks)

Question 2

Your treasury manager has substantial surplus USD funds to invest and has identified two different investments which they wish to research further before making a final investment decision. They have provided you with the following details of the two investments:

- a deposit account with a nominal annual yield of 3.0%, paying interest quarterly
- a 60-day discount instrument quoted at a nominal annual discount rate of 2.95%.

The treasury manager has asked you which of these two alternatives will provide the best annual effective rate of return, as that information will be a key part of their eventual decision.

a. Calculate the annual effective rate of return for the deposit account.
You are required to show your workings.

(2 marks)

b. Calculate the annual effective rate of return for the 60-day discount instrument.
You are required to show your workings.

(3 marks)

c. Recommend to your manager the best option between the two investments, based on return alone.
You are required to show your workings.

(1 mark)

d. Explain briefly **TWO** other relevant factors you would mention to your manager which could impact on the eventual investment decision, regardless of the rate of return.

(4 marks)

(Total 10 marks)

Question 3

You are working in the foreign exchange (FX) team within your organisation's treasury department. You have been asked to support a new team member who is learning how to undertake spot transactions. The global nature of your organisation means that transactions are required in a range of currencies.

The new team member has been asked to find an applicable rate for a forthcoming transaction which will involve the purchase of Hong Kong Dollars (HKD) and the sale of Swiss Francs (CHF).

The new team member is uncertain as to how to proceed because they cannot find a quote for this currency pair. They have therefore asked for your help, having established the following:

Currency Pair	Bid Price	Offer Price
USD/HKD	7.7514	7.7515
USD/CHF	0.9177	0.9180

a. Explain to your colleague how an appropriate spot rate for this currency pair would be established in practice.

(3 marks)

b. Calculate the spot exchange rate for the CHF/HKD deal.

(4 marks)

c. Explain to your colleague the impact on the spread for currency deals like these, compared to commonly traded currency pairs

(3 marks)

(Total 10 marks)

Question 4

You work as a treasury analyst in a UK-based housing association, Street House plc (SHP) and have just attended a board meeting where the need for SHP to formulate a new interest rate management policy was discussed.

You were asked to make notes about the key points discussed and the next step is for you to prepare a draft interest rate management policy document based on what was discussed. The draft policy document will be presented to the board for final approval.

At the meeting you recorded the following points:

- SHP has a large amount of debt secured on its property portfolio and much of it is charged at floating rates
- the chief financial officer (CFO) stated that as a risk averse company, SHP is keen to limit its exposure to floating interest rate volatility by ensuring in future that approximately 80% of its overall interest cost is fixed for each financial year
- the CFO will require monthly updates relating to SHP's floating rate exposure and be advised immediately by exception if the level of fixed debt falls below 70% of the total
- this strategy would be in line with those of its competitors but should be reviewed regularly
- treasury will be required to manage this risk by using plain vanilla financial instruments limited to GBP25m per trade Corrective action would be expected where a variance of 5% above or below the 80% target is identified
- specified treasury officers will have responsibility for implementing the new policy exclusively through SHP's chosen relationship banks
- the board will require a quarterly update and will review the policy annually.

Describe how you will include the information you gathered at the meeting within the key contents sections of the draft interest rate management policy document you have been asked to prepare

(10 marks)

(Total 10 marks)

Formulae sheet: Unit 1 The context of treasury

ZERO COUPON PAR RELATIONSHIP

$r_{par} = (1 - DF_n) / CumDF_n$

ANNUITY FACTOR

$(1 - (1 + r)^{-n}) / r$

ANNUITY PRESENT VALUE

$$PV = \frac{CF}{r} x \left(1 - \frac{1}{(1+r)^n}\right)$$

PERPETUITY VALUATION

PV = CFt1 / r

GROWING PERPETUITY

PV = CFt1 / (r – g)

INTEREST RATE PARITY FORMULA

$$\frac{1+r_a}{1+r_b} \text{ x Spot (B/A) = Forward(B/A)}$$

Answers and Unit references – Section A

Question	Learning outcome	Correct answer	Question	Learning outcome	Correct answer
AO1	LO2 - Reading 1.2.1 Calculation	B	A13	LO2 - Reading 1.2.3	B
A02	LO2 - Reading 1.2.2 Calculation	A	A14	LO2 - Reading 1.2.1 Calculation	C
A03	LO1 - Reading 1.1.2	A	A15	LO2 - Reading 1.2.3 Calculation	A
A04	LO2 - Reading 1.2.4	A	A16	LO3 - Reading 1.3.2 Calculation	B
A05	LO2 - Reading 1.2.1 Calculation	C	A17	LO1 - Reading 1.1.4	A
A06	LO2 - Reading 1.2.1 Calculation	A	A18	LO3 - Reading 1.3.2	B
A07	LO3 - Reading 1.3.3	C	A19	LO3 - Reading 1.3.3	C
A08	LO3 - Reading 1.3.5	B	A20	LO3 - Reading 1.3.3 Calculation	C
A09	LO2 - Reading 1.2.4	B	A21	LO1 - Reading 1.1.3	C,E
A10	LO2 - Reading 1.2.1 Calculation	A	A22	LO1 - Reading 1.1.3	B,E
A11	LO2 - Reading 1.2.3 Calculation	B	A23	LO3 - Reading 1.3.1	C,E
A12	LO1 - Reading 1.1.4	D	A24	LO1 - Reading 1.1.2	C,E

Question	Learning outcome	Correct answer	Question	Learning outcome	Correct answer
A25	LO1 - Reading 1.1.3	B,E	A28	LO2 - Reading 1.2.1	B,D
A26	LO3 - Reading 1.3.1	A,C	A29	LO3 - Reading 1.3.3	B,E
A27	LO2 - Reading 1.2.1	A,E	A30	LO1 - Reading 1.1.1	B,D

Answers and Unit references – Section B

Question	Learning outcome	Correct answer	Question	Learning outcome	Correct answer
BO1	LO1	B	B13	LO2	B
B02	LO1	B	B14	LO3	D
B03	LO2	D	B15	LO3	B
B04	LO2	D	B16	LO1	A
B05	LO3	B	B17	LO1	D
B06	LO1	D	B18	LO2	B
B07	LO2	B	B19	LO2	A
B08	LO2	A	B20	LO3	D
B09	LO3	B	B21	LO1	D
B10	LO3	D	B22	LO2	A
B11	LO1	A	B23	LO2	A
B12	L01	C	B24	L03	D

Question	Unit	Correct answer	Question	Unit	Correct answer
B25	L03	A	B28	L02	B
B26	L01	C	B29	L03	A
B27	L01	C	B30	L03	B

<table>
<tr>
<td>C1a</td>
<td>Syllabus refs: LO1 1.1.4</td>
<td>Mark Scheme
Ideally the department should be split into a front and back office environment and specific aspects of the commodity trading deal cycle should be placed within two separate types of role clearly defined as such. A typical treasury transaction process has the following steps in bold below, grouped as shown:
<table>
<tr><td rowspan="3">Front Office</td><td>Identification of the position</td></tr>
<tr><td>Pre-dealing authorisation</td></tr>
<tr><td>Dealing</td></tr>
<tr><td rowspan="3">Back Office</td><td>Confirmation</td></tr>
<tr><td>Settlement (often dual authorised)</td></tr>
<tr><td>Accounting</td></tr>
</table>
As the more experienced member of the team, it may make sense for the TM to retain the identification of the position but a new recruit could be deployed in the front office to complete the pre-authorisation and dealing activities, with the final front office part of the process being to input the deal to a treasury management system.

This deal input may initiate a payment however, a new recruit could be deployed in the back office to confirm trades with counterparties and settle the deal by authorising the payment. Finally, the back office recruit would be responsible for accounting for the transactions in CF’s accounting systems.</td>
<td>½ mark for each of the stages identified in the treasury transaction life cycle – 3 marks

1 mark for accurately identifying both groupings of front and back office roles

1 mark each for explaining the elements of the process that the treasury manager should retain, and which should be reallocated to each of the two new recruits – 3 marks</td>
</tr>
<tr>
<td>C1b</td>
<td></td>
<td>Treasurers deal with large sums of money on a daily basis and the key operational risks to manage are those of fraud and error. Segregation of duties is usually achieved by the split of the treasury into front office and back office which is a key management control designed to reduce the risk of error or fraud.
Segregation of duties is sometimes referred to as the ‘duality’ or ‘four eyes’ principle. The objective is to involve at least 2 people in the life of a single deal, from initiation, through transacting, to settlement and reporting in order to minimise the risk of fraud, which would require collusion on a large scale to be successful, and undetected errors slipping though.</td>
<td>1 mark each for explaining the elements of the process that the treasury manager should retain, and which should be reallocated to each of the two new recruits – 3 marks

1 mark for each of the concepts highlighted – 3 marks

Total 10 marks</td>
</tr>
</table>

C2a **C2b** **C2c** **C2d**	**Syllabus refs: LO2 – Reading 1.2.3**	Calculations as follows: • Convert to periodic yield; [0.03 x (3/12)] x (365/360) = 0.007604167 • Convert to EAR; (1 + 0.00760417)4 – 1 = 0.03077 (3.077%) Calculations as follows: • convert to periodic discount; 0.0295 x (60 /360) = 0.0049167 per 60 days • convert periodic discount to periodic yield as follows; 0.0049166 / (1 – 0.0049167) = 0.0049410 per 60 days • convert to EAR; (1 + 0.0049410)(365/60) – 1 = 0.03044 (3.044%). As the discount instrument has a lower EAR than the deposit account (3.044% compared to 3.077%) then the recommendation should be to invest in the deposit instrument. The relevant factors are: • **risk** – better returns are usually offered because the investor is willing to accept a higher degree of risk. The alternative suggested needs to be reviewed to ensure that the level of risk is acceptable to the organisation; i.e. is the bank/organisation offering the investment sufficiently trustworthy and reputable to ensure the funds invested are as safe as they would be with a bank/organisation offering lower rates of return • **maturity** – consideration needs to be given as to when the funds might be required. In this scenario, the discount instrument offers a higher return and a shorter maturity date than the deposit account, so maturity isn't a consideration; however in many circumstances a higher return is only achievable by accepting a longer maturity. In those circumstances maturity becomes an issue because liquidity has to be foregone for longer and this might create operational issues.	2 marks 3 marks 1 mark 4 marks **Total: 10 marks**

C3a	**Syllabus refs: LO3 – Reading 1.3.2**	The process required is to enter into a cross currency deal. This process enables appropriate rates to be calculated for less common currency pairs. As most currencies traditionally are quoted against the USD, it is possible to use USD as a basis for calculations. Two transactions take place behind the scenes, involving trades with USD. For example, to handle the CHF/HKD deal, deals involving (i) the sale of HKD and the purchase of USD and (ii) the sale of USD and the purchase of CHF would take place. The USD transactions would take place behind the scenes at the bank and would not be visible to the customer.	3 marks
C3b		Calculations as follows: • as USD is on the same side of each currency pair, quotes are cross divided as follows: USD/HKD USD/CHF = CHF/HKD BID OFFER USD/HKD 7.7514 7.7515 Divided by USD/CHF 0.9180 0.9177 Crossed over – bigger number first =CHF/HKD 8.4438 8.4467 • as the requirement is to sell CHF, the bid price is applicable, i.e. 8.4438.	4 marks
C3c		The impact of a cross-currency deal is to increase the spread between the bid and offer prices quoted; the reason being that the market maker is effectively undertaking two transactions to meet the customer requirements rather than just one, leading to more costs.	3 marks **Total: 10 marks**

C4	**Syllabus refs: LO3 – Unit 1.3**	Appropriate key content sections are as follows; each heading includes specific information to include based on SHP's stated requirements. **What the risk is and why it is being managed?** Interest rate risk is to be managed to reduce the volatility to the interest cost line due to floating rate debt interest costs. **Risk management objectives** To ensure 80% of our interest costs are fixed for each financial year. **Risk measures to be used in measuring risk and risk management performance** Initially net debt to be analysed to ensure that 80% is either already fixed or can be swapped to fixed rates for each financial year **Benchmarking routines** A benchmarking exercise has been done to ensure the proposed policy is in line with competitors' strategies. This will be revisited annually prior to approval of the policy for the following budget year. **Delegation of responsibility for managing risk** The responsibility of approving the products traded and the magnitude required will be delegated to the treasurer. **Procedures to be followed** The specific financial instruments will be executed by treasury dealers with the group's main relationship banks at a maximum of GBP25m per trade. **Risk targets and limits** The target of 80% of net debt fixed will be analysed each month. It will be maintained within a range of that (5% above and below) with corrective action approved to bring it back in line. **Performance reporting and feedback mechanisms** Falling out of the target ranges 70-80% must be reported to the CFO by exception. The analysis will be reported to the board each quarter, and policy reviewed annually. Other sensible suggestions will also be accepted.	**1 mark** **1 mark** **1 mark** **1 mark** **1.5 marks** **1.5 marks** **1.5 marks** **1.5 marks** **Total 10 marks**

ACT (Administration) Limited
150 Minories
London
EC3N 1LS

www.treasurers.org