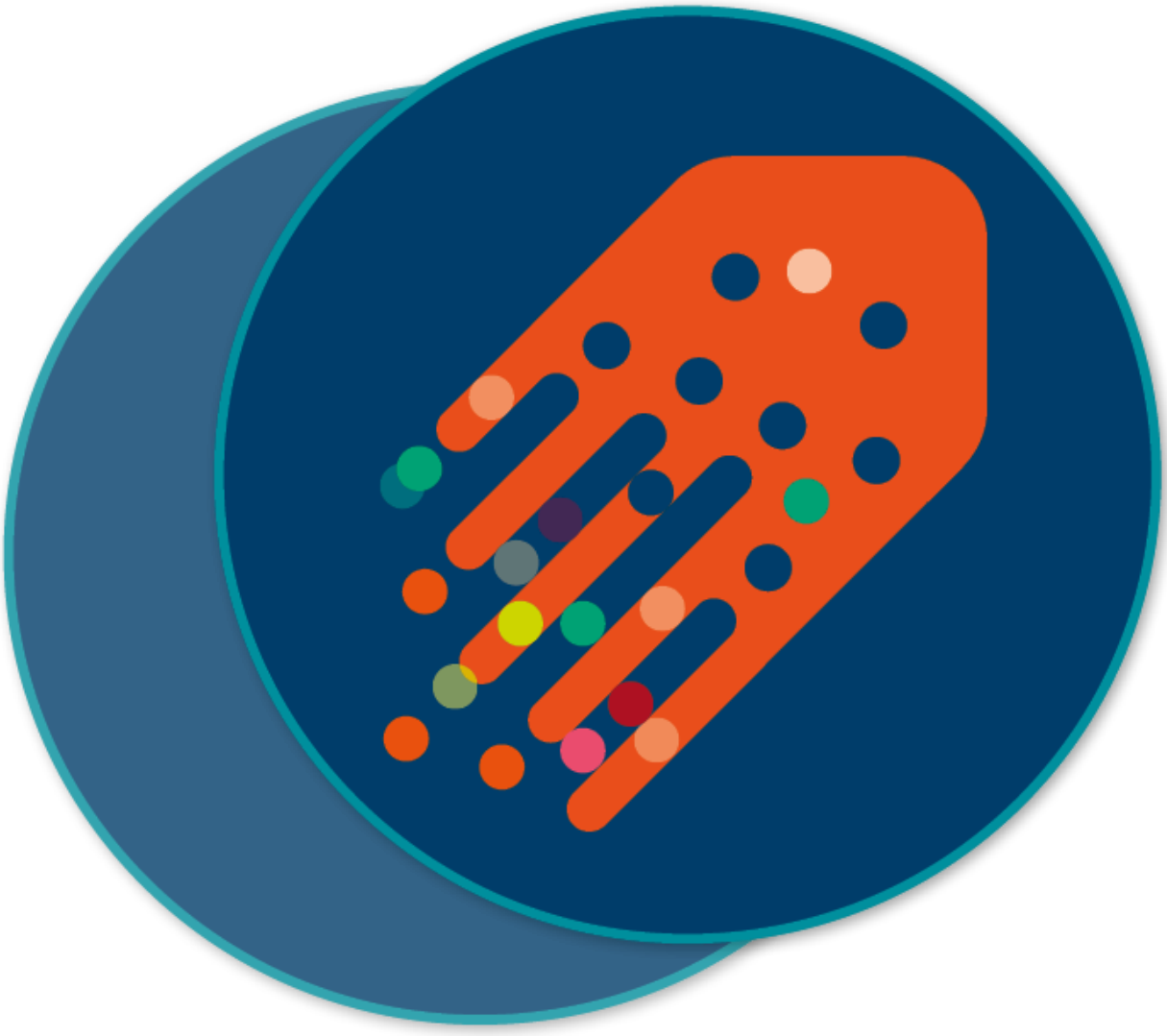
ACT Practice Paper

Certificate in Treasury Unit 3

Practice Paper



Practice paper for the Certificate in Treasury Unit 3

Based on the syllabus assessed from 05 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 3 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 consist 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**	

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 24 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 A diversified market portfolio of GBP50m returns 5% and the risk free rate of return is 2%. What is the required return on a security with a Beta of 0.8?

A 6.0%.
B 4.2%.
C 7.0%.
D 4.4%.

A02 A share lies above the security market line.
Which of the following describes how the share price and share return would be expected to change?

A Increase in share price and decrease in share return.
B Decrease in share price and increase in share return.
C Decrease in share price and decrease in share return.
D Increase in share price and increase in share return.

A03 A company makes a two for one rights issue.
What is the impact on its Earnings per Share (EPS), if other factors remain the same?

A It is not possible to determine from the information.
B No change in EPS.
C EPS halves.
D EPS doubles.

A04 Which of the following describes the theoretical optimal capital structure?

A The theoretical optimal structure maximises the tax shield.
B The theoretical optimal structure minimises the Weighted Average Cost of Capital.
C The theoretical optimal structure maximises financial slack.
D The theoretical optimal structure minimises the debt to equity ratio.

A05 Which of the following describes the preferred ranking of capital sources under pecking order theory?

A New equity is preferred to debt which is preferred to retained earnings.
B Retained earnings are preferred to debt which is preferred to new equity.
C Retained earnings are preferred to new equity which is preferred to debt.
D Debt is preferred to retained earnings which are preferred to new equity.

A06 A company has just paid an annual dividend of USD0.15 per share. The current share price is USD3.10. Dividends are forecast to grow at 4% per annum.

What is the cost of equity?

A 0.090322581.

B 0.048387097.

C 0.012903226.

D 0.266666667.

A07 What type of risks are investors rewarded for taking under the Capital Asset Pricing Model (CAPM)?

A Total risk.

B Diversifiable and systematic risks.

C Diversifiable risks.

D Systematic risks.

A08 Which appraisal technique is most relevant for a company concerned with achieving positive cashflows in the shortest period of time?

A Net Present Value.

B Accounting Rate of Return.

C Profitability Index.

D Payback.

A09 Which of the following describes the cashflows and discount rate required by the entity valuation method?

A The geared free cashflows discounted by the cost of equity.

B The ungeared free cashflows discounted by the Weighted Average Cost of Capital.

C The ungeared free cashflows discounted by the cost of equity.

D The geared free cashflows discounted by the Weighted Average Cost of Capital.

A10 A bank loan with an eight-year term has the following interest rate structure: EURIBOR + 30 basis points for four years, EURIBOR + 50 basis points for two years and EURIBOR + 80 basis points for two years.

Which one of the following describes this structure?

A A pre-agreed drawdown schedule.

B A stepped margin.

C A ratchet.

D A financial covenant.

A11 What effect would a reduction in the corporate tax rate have on a company's effective cost of debt and Weighted Average Cost of Capital (WACC)?

A Increases the effective cost of debt and increases WACC.
B Decreases the effective cost of debt and decreases WACC.
C No effect on either the effective cost of debt or WACC.
D Decreases the effective cost of debt and increases WACC.

A12 Which of the following is the process to raise new capital from existing shareholders?

A A rights issue.
B An initial public offering.
C A private placement.
D A share split.

A13 What can an investor expect in an efficient market?

A Fair returns consistent with investment risk.
B Low transaction costs.
C Liquidity in all market conditions.
D Perfect information.

A14 Which of the following is a limitation of the Internal Rate of Return (IRR) appraisal technique?

A IRR does not consider the size of the project.
B IRR is based on accounting values.
C IRR encourages short termism.
D IRR is a non-discounted cashflow technique.

A15 Theoretically, what effect does a rights issue have on market capitalisation and share price if all other factors remain unchanged?

A No change in market capitalisation and increases share price.
B No change in market capitalisation and decreases share price.
C Increases market capitalisation and no change in share price.
D Increases market capitalisation and decreases share price.

A16 Which of the following securities earns its entire return on redemption?

A Straight bond.
B Zero coupon bond.
C Government bond.
D Junk bond.

A17 Which of the following is a limitation of the Net Asset Value (NAV) technique?

NAV ignores:

A market values.

B replacement cost values.

C liquidity.

D intangible assets.

A18 If a rights issue is deeply discounted what is the likely impact?

A The amount of new capital raised is likely to be reduced.

B The existing shareholders are more likely to take up the rights.

C The market is less likely to interpret the issue as a sign of financial distress.

D The underwriting fee is likely to increase.

A19 Which of the following describes a security with a Beta value of 1?

A The security is risk free.

B The security has the same risk as government bonds.

C The security has the same risk as the diversified market portfolio.

D The security has greater risk than the diversified market portfolio.

A20 Which of the following is a limitation of the Payback investment appraisal technique?

A The technique can have multiple solutions.

B The technique is based on accounting values.

C The technique implicitly assumes any funds generated are reinvested at the same rate.

D The technique can encourage short termism.

A21 Which THREE of the following investment appraisal techniques take account of the time value of money?

A Accounting rate of return.

B Earnings multiples.

C Internal Rate of Return.

D Net Present Value.

E Payback.

F Profitability Index.

A22 The risk-free rate of return is 3% and the equity risk premium is 5%.

Which TWO of the following investments would the rational investor choose?

A A security with a Beta of 0.6 and total return of 5.8%.

B A security with a Beta of 0.8 and total return of 7.2%.

C A security with a Beta of 1.0 and total return of 8.2%.

D A security with a Beta of 1.2 and total return of 8.4%.

E A security with a Beta of 1.5 and total return of 10%.

A23 Which THREE of the following are implications of the Efficient Market Hypothesis?

A Information available does not influence security prices.
B Investors receive a fair return consistent with the level of risk.
C It is impossible to consistently outperform the market.
D Market price changes are irrelevant.
E Markets have no memory.

A24 Which TWO of the following are typical characteristics of a straight bond?

A All return is earned on redemption.
B Convertible to equity.
C Coupon paid on regular dates.
D Nominal value of the bond repaid on a specified date.
E Sold to investors at a price below face value.

A25 Which of the following are assumptions underlying the Capital Asset Pricing Model (CAPM)? Select ALL that apply.

A Investors can borrow at zero cost.
B Investors have different perceptions of expected returns.
C Investors have identical investment horizons.
D There are no transaction costs or taxes.
E There is no dominant player in the market.

A26 Which THREE of the following are typical characteristics of a Medium Term Note programme?

A Full legal documentation required on each issue.
B Issues are only in US Dollars (USD).
C Issues can use fixed or floating rates.
D Pricing supplement sets out the terms of each issue.
E Programmes have a credit rating.

A27 Which TWO of the following require the use of market values?

A Covenant compliance.
B Credit rating ratios.
C Financial forecasts.
D Share capital and share premium accounts.
E Weighted Average Cost of Capital.

A28 Which of the following are relevant cashflows to include in a discounted cashflow appraisal? Select ALL that apply.

A Dividend cashflows.
B Financing cashflows.
C Sunk cost cashflows.
D Terminal value cashflows.
E Ungeared free cashflows.

A29 Which of the following increase the number of issued shares for a company? Select ALL that apply.

A Debt raising.
B Rights issue.
C Scrip issue.
D Share buy-back.
E Share split.

A30 Which THREE of the following would remain the same after a scrip issue?

A Company's cash balances.
B Market value of the company.
C Number of shares issued.
D Share price.
E Shareholders' wealth.

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

Case study 1

Healy Sealy (HS) is a public manufacturing company based in the United Kingdom. The company maintains a BBB- credit rating, the lowest investment grade credit rating. The treasurer thinks that the company's capital structure is not at its optimal level. It is HS's first priority to take on more debt to decrease its weighted average cost of capital (WACC) which is currently 10%. It has an interest cover covenant in place which is at its maximum. Breaching this covenant would invoke immediate repayment of all debt. HS has made losses in the past three years and is forecast to make losses over the next three years.

A business opportunity to acquire a competitor, PS, has arisen. Equity finance is not an option. Shareholders and debt holders are reluctant to fund the acquisition.

HS currently has a beta of 1.5 and its shares lie above the security market line. The company currently has a cost of equity of 11% and the risk-free rate is 2%.

B01 Which of the following is a sign of financial distress for HS?

A Covenant is maxed out.
B Rating downgrade.
C Repayment of debt.
D Tax capacity is finite.

B02 What are the implications for HS if its credit rating is downgraded?

A HS's investors will demand a higher equity return.
B Its cost of debt stays the same.
C Its interest cover covenant goes up.
D Its share price appreciates.

B03 Which of the following about HS's shares is true?

A HS investors have the same investment horizon.
B HS shares should fall in price.
C Shares are undervalued.
D Transaction costs differ for each investor.

B04 What is the equity risk premium that HS investor should request?

A 5%.
B 6%.
C 8%.
D 10%.

B05 Which of the following about HS's beta is true?

A Diversifiable risk of HS's shares is rewarded.

B HS's beta is 50% lower than market systematic risk.

C Systematic risk of HS's shares is 50% above market portfolio.

D Total risk of HS's shares is 50% above market portfolio.

Case study 2

Shares of the manufacturing company **Silly Chilly** (SC) are publicly traded on the New York Stock Exchange. The company wants to issue a bond to finance a project in Spain. Its reporting currency is USD. The USD debt capital market is the most liquid market for corporates but the project in Spain is expected to be funded in EUR. SC has determined that it would like to pay an annual fixed coupon of 3% on any new debt. SC also has a medium-term note (MTN) program in place which it wants to use to fund the project in Spain. The MTN program allows SC to offer debt securities on a regular and continuous basis and minimises the requirement for any new documentation that is needed for each offering.

A year later, SC has issued the bond in Spain successfully. The bond is trading at a yield to maturity of 4% and has a face value of EUR100 and exactly four years to maturity. The bond carries an investment grade rating. The bond holders are subordinated to other debt holders. The debt capital market has not seen corporate bonds being oversubscribed recently.

B06 Which of the following is an advantage for SC if it uses its MTN programme?

A It allows for opportunistic funding.
B It does not require any maintenance.
C The issuance is always asset backed.
D The issuance is supported by a full set of legal documents.

B07 What is the likely impact of the change in yield for SC?

A Credit rating is upgraded.
B Market value of the bond goes down.
C Market value of the bond goes up.
D No risk, coupon is fixed.

B08 What is the current market value of SC's bond?

A EUR94.77.
B EUR95.62.
C EUR96.37.
D EUR98.30.

B09 Which factor can influence SC's bond's credit spread positively?

A Bond holders are subordinated.
B Demand is bigger than supply.
C Its investment grade rating.
D Yield to maturity indicates lower credit risk.

B10 What type of bond has SC issued?

A Bulldog Bond.
B Eurobond.
C Foreign bond.
D Matilda Bond.

Case study 3

Bloomer Boomer (BB) is a Dutch company selling flowers internationally. BB had an initial public offering (IPO) five years ago. From the IPO the company raised EUR100m of funding. In the past, its shares traded at EUR12.50 but fell below EUR5 due to an accounting scandal in 2019. This has caused some financial distress for BB. BB has now decided that it wants to raise EUR20m with a rights issue. It currently has 8m shares in issue, and its current share price is EUR2.50. BB wants to make sure that the rights issue does not destroy nor create value for existing shareholders. The discount to shareholders is 50%.

In a second proposal, BB has further decided to issue redeemable, cumulative preference shares to its employees. The board has also approved a policy change and decided not to pay out dividends in the next 10 years. The fixed redemption date is in two years. This decision has caused unrest between BB's shareholders, who all hold ordinary shares.

B11 What is the value of the right to buy a new share at a 50% discount?

A EUR0.42.
B EUR1.25.
C EUR1.67.
D EUR2.50.

B12 What is the purpose of BB's 50% discount?

A Investors are compensated for the decline in its share price in 2019.
B It increases the share price.
C It prohibits existing shareholders to sell the rights.
D Underwriter cost is reduced.

B13 Which of the following is a reason for BB's ordinary shareholders to disagree with the second proposal?

A In two years, preference shareholders receive the market value in exchange for their shares.
B Preference shareholders can vote on replacement of the board of directors.
C Preference shareholders have a contractual right to have dividends paid out annually, even if BB makes losses.
D Preferred shareholders are paid ahead of ordinary shareholders in case of liquidation.

B14 What is the likely market signal of BB's dividend policy change?

A Not paying out dividends decreases the risk for investors.
B BB is in financial trouble.
C BB wants to decrease its operating expenses.
D BB wants to save taxes on dividend payments.

B15 Which of the following is true under the pecking order theory?

A BB's rights issue is seen as a sign of trouble.

B Equity is cheaper to raise than debt.

C Equity is the preferred source of funding.

D To issue equity requires no justification to investors.

Case study 4

Kugheim GmbH (Kugheim) has just released its latest financial statements. A summarised version of its Statement of Comprehensive Income is as follows:

	EUR'000
Turnover	20,632
Cost of sales	13,400
Gross Profit	**7,232**
Administrative Expenses	1,934
Depreciation	448
Operating Profit	**4,850**
Interest Expense	224
Profit on ordinary activities before tax	**4,626**
Tax	552
Profit for the financial year	**4,074**

Kugheim's competitors also show the following financial metrics:

Name	Enterprise Value EUR'000	EBITDA EUR'000
Competitor A	185,122	13,104
Competitor B	143,824	12,344
Competitor C	12,764	1,319

All three competitors have the same cost structure as Kugheim. Kugheim has bank debt and also has a debt/EBITDA covenant in place that it monitors closely to ensure compliance as required under the Credit Agreement with its lenders. Kugheim also has plans to sell shares for a part of its business that is no longer performing well. An appropriate price for the sale of the shares has been calculated using the discounted cashflow model. Kugheim has experienced difficulties calculating an appropriate discount factor to determine the value of these shares.

B16 Which of the following is Kugheim's EBITDA?

A EUR5,298,000.

B EUR5,074,000.

C EUR6,784,000.

D EUR7,232,000.

B17 Which of the following is an appropriate EBITDA multiple for Kugheim?

A 10.

B 12.

C 14.

D 15.

B18 What is the purpose of Kugheim's debt/EBITDA covenant?

A It enables the lender to monitor credit risk of the borrower.

B Shareholder value is increased.

C The bank ensures it will be compensated for declining risk.

D The credit rating agency gives Kugheim a better rating.

B19 Which of the following is missing to calculate ungeared, after-tax free cashflow?

A Capital expenditure and interest income.

B Debt and cash totals.

C Value of perpetuity.

D Working capital movements and capital expenditure.

B20 Which of the following is the correct rate to calculate the discount factor for valuing Kugheim shares?

A Cost of debt.

B Cost of equity.

C Inflation rate.

D Weighted average cost of capital.

Case study 5

Xi Company (XC) operates in the construction industry where the average return is 11% while the rate of return on government treasury bills is 6%. Its Beta is 1.3. XC is deciding whether to invest in one of the following five different projects as shown in Table 1. XC's hurdle rate is 8%. XC always uses the internal rate of return, the hurdle rate and the cost of capital to select appropriate projects.

Table 1		
Project	**Internal Rate of Return**	**Investment amount USD'000**
A	10%	500
B	14%	200
C	6%	1,500
D	11.5%	100
E	12.5%	1,000

A year later, XC has recognised the weaknesses in its investment appraisal process. It has decided to evaluate projects using the profitability index. Due to capital constraints and the increase in construction costs, XC's initial view was that it would only be able to pursue one of the five projects below.

Table 2		
Project	**Net present value (NPV)**	**Capital Investment USD'000**
F	**120**	**1,000**
G	**230**	**1,500**
H	**(50)**	**2,000**
I	**150**	**1,000**
J	**130**	**1,200**

Three months later as cashflow has improved, XC decided that it can now pursue several projects instead of only one in the list F to J inclusive shown in Table 2. Its capital is restricted to USD2m for combined projects and the projects are divisible. XC still uses the profitability index to evaluate all feasible projects.

B21 What is an appropriate cost of capital for XC?

A 11%.

B 12.5%.

C 13.8%.

D 20.3%.

B22 Which of the following project is the most profitable investment option for XC?

A Project A.

B Project B.

C Project C.

D Project D.

B23 Which of the following is a limitation of XC's investment appraisal process?

A Cash generated by the project is reinvested at multiple rates.

B Cashflows shifting from positive to negative multiple times do not adjust the IRR.

C Failure to allow for the size of the project.

D The hurdle rate should be used as the sole rate to select a project.

B24 Which of the following projects F to J inclusive should XC pursue?

A Project F.

B Project G.

C Project I.

D Project J.

B25 Which of the projects should XC pursue under the soft capital rationing criteria?

A Project G and I.

B Project G and part of project I.

C Project G and part of project J.

D Project J and part of project F.

Case study 6

The Swiss company **Sandy Markets** (SM) has a EUR100m revolving credit facility with a syndicate of banks in place. The commitment fee on this facility is 50 basis points. The facility is drawn 70% during an interest calculation period of 100 days. SM agreed with its partners that the RCF cannot be transferred without SM's consent. SM forecasts that the facility will be fully drawn over the next five years.

SM has an outstanding bond which matures in two years. It is now evaluating whether it should arrange additional bank borrowing to refinance the bond or issue another bond. SM's bond holders are focused on the return while SM's banking partners are mainly interested in capital preservation. SM's main concern is flexibility and very little restrictive covenants to not increase reporting requirements. If it has surplus cash, it would like to repay its debt early. Borrowing requirements for SM are forecast to fluctuate widely. SM's treasurer has not been satisfied with the cost of debt in the past, since it was perceived as too high.

B26 How much does SM pay as a commitment fee?

A EUR41,095.89.
B EUR41,666.67.
C EUR95,890.41.
D EUR97,222.22.

B27 Which of the following is correct for SM's syndicated RCF compared to a bilateral facility?

A Negotiating syndicated loan terms is easier.
B The RCF bears the risk that SM ends up with an unknown bank.
C The RCF loan document is shorter.
D Under SM's current forecast, no commitment fee is due.

B28 Which of the following sources of debt, if any, is the most appropriate for SM?

A A Eurobond.
B A higher RCF.
C A term loan.
D None.

B29 What can SM do to decrease its cost of debt?

A Increase gearing.
B Negotiate a higher debt/EBITDA covenant.
C Negotiate a lower interest cover covenant.
D Post security.

B30 Which of the following do SM's banking partners require on a periodic basis?

A A listing.
B Prospectus.
C Published financial statements.
D Roadshows.

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

Question 1

Jolano Logistics (JL), a UK online retailer, was founded in 2005. In 2006, the company started its commercial delivery service.

During the recent pandemic, demand for home deliveries has grown significantly. As a result, JL invested in capital expenditure to expand its operations.

JL's revolving credit facility (RCF) has just been re-negotiated with its relationship banks. JL has a variable borrowing requirement which it expects to average GBP35m over a twelve-month period. The treasurer has re-negotiated the RCF on the following terms:

Total facility	GBP50m
Term	1 year
Interest margin	50 basis points over reference rate
Commitment fee (payable on the unused portion of the facility)	30 basis points
Expected reference rate	1.50%
Utilisation fee	50 basis points
Fee calculation basis	act/365 days

The loan documentation for the RCF specifies that if over 80% of the facility is drawn down on any day, a utilisation fee is payable on the excess figure over the 80% hurdle. This fee is calculated on a simple interest basis for the period of excess drawing.

During one interest calculation period of 30 days, the facility was 70% drawn on average. This included seven days during which the facility was 90% drawn.

JL intends to continue with its expansion plans, so the treasurer has recognised the need to raise more cash to fund these.

As JL is a profitable publicly quoted company which has seen its share price rise strongly, one cash-raising idea under consideration is a rights issue.

JL's board has expressed concerns about the impact of a rights issue on JL's share price and a dilution in both the economic value and proportional voting power of existing shareholders. However, the treasurer has offered the board reassurance that the pre-emption rights of existing shareholders will provide them with adequate protection.

a. Calculate:

i. the all-in cost of JL's RCF for the 12-month period

ii. the all-in cost as a percentage of JL's expected average borrowing.

(6 marks)

b. Explain how pre-emption rights would address the three concerns expressed by JL's board and protect existing shareholder interests.

(4 marks)

(Total 10 marks)

Question 2

You work as a treasury analyst for **Antea Fabrications** (AF), a mid-sized steel manufacturer based in Holland. The company aims to become carbon neutral within the next eight years and considers that the best way to achieve this objective is to merge with a competitor.

AF's treasurer asked you to analyse the company's forecast free cashflows for the next three financial years ahead of an upcoming strategy meeting. At the meeting, AF's entity value will be discussed before more detailed merger negotiations commence.

You have been provided with the following financial information:

	Year 1	Year 2	Year 3
	EURm	EURm	EURm
Earnings before Interest and Tax (EBIT)	100	125	132
Depreciation (included in EBIT)	15	16	18
Capital expenditure	20	25	28
Tax payments	30	32	32
(increase)/decrease of working capital	(2)	5	(3)
Interest payments	11	11	15

AF operates in a cyclical sector. Nevertheless, it has increased its profitability year after year, despite its business being both capital and labour intensive.

When you present your analysis to the treasury team as the basis for a discounted cashflow valuation, a colleague raised concerns about the reliability of the forecast free cashflows you calculated, pointing out that other valuation methods are available that may be more appropriate to assess AF's entity value.

a. Calculate AF's forecast free cashflow for Year 1, Year 2 and Year 3.

(4 marks)

b. Discuss two potential shortcomings of forecasting AF's free cashflows accurately if using just the financial information provided.

(4 marks)

c. Recommend one alternative valuation method that the colleague might consider appropriate to determine the entity value of AF.

(2 marks)

(Total 10 marks)

Question 3

You work for **The Beverly Hotel Group** (BHG), a public company based in the United States which operates several hotels in north America.

BHG has steady revenue streams and very low cyclicality because of several complementary programmes that attract guests throughout the year.

BHG currently uses just two relationship banks, which provide committed facilities. It has a multicurrency committed revolving credit facility (RCF) of USD100m in place which matures in four years' time. The group is comfortably meeting its borrowing covenants and has plenty of headroom.

BHG's management is currently considering the issuance of its first asset backed corporate bond next year to raise cash for a planned expansion into Germany. All costs for the expansion have to be paid in EUR, so it is considering the issue of a foreign bond. BHG currently has an investment grade rating.

BHG's cashflow forecasts indicate a core debt requirement in the order of EUR250m will be required over a five-year period. Interest cover capacity is forecast to be limited over the next two years as a result of timing differences between BHG incurring capital expenditure and its new revenue streams building up.

a. Explain the nature of a foreign bond and how this could be tailored to meet BHG's new debt requirement.

(4 marks)

b. Explain **THREE** factors which would influence the spread on BHG's planned bond issuance.

(6 marks)

(Total 10 marks)

Question 4

Arielle Group (AG) is a French mass media and entertainment business.

Its operations manager has been made responsible for implementing a new travel management system and is currently assessing the suitability of one solution that has been offered by a supplier. The treasury team has been asked to provide support by appraising the proposed project from a financial perspective.

The operations manager has provided the following information about the initial project investment cost and expected future cashflows.

Year	Cashflow (EUR)	Description
0	(250,000)	Initial investment for the system
1	60,000	Cashflows from asset
2	60,000	Cashflows from asset
3	60,000	Cashflows from asset
4	60,000	Cashflows from asset
5	60,000	Cashflows from asset
6	10,000	Constant cashflow in perpetuity

Treasury has the following information relating to AG's current funding structure:

Number of ordinary shares issued	1,000,000
Current share price	EUR2.00
Beta	1.20
Current risk-free rate	2.00%
Equity risk premium	6.00%
Corporate bonds outstanding (face value)	EUR2,500,000
Bond coupon	4.00%
Current trading position of bonds	3.00% above par
Bond yield to maturity	2.00%
Tax rate	30.00%

AG's weighted average cost of capital (WACC) will be the basis for the discount rate used within the project appraisal.

a. Calculate AG's WACC and the net present value of the travel management system project.

(6 marks)

b. Calculate the payback period for the travel management system project to the nearest month.

(2 marks)

c. Outline **TWO** shortcomings of the payback appraisal technique.

(2 marks)

(Total 10 marks)

Formulae sheet: Unit 3 Corporate Finance

1. CAPM formula

$$K_E = r_f + \beta X (r_m - r_f)$$

2. Share valuation for a firm with normal or constant growth (Gordon growth model)

$$P_0 = \frac{d_1}{[k_E - g]}$$

3. Weighted average cost of capital

WACC = (After tax cost of debt x % Debt) + (Cost of equity x % Equity)

Where: After tax cost of debt = (1- Tax rate) x Cost of debt%

4. Present Value and future value formulae

$$PV = FV(1+r)^{-n} = \frac{FV}{(1+r)^n}$$

$$PV = \frac{C}{(r-g)}$$

$$IRR\% = a\% + \frac{A}{(A-B)}(b\% - a\%)$$

5. Ratios

$$PI: \frac{\text{Project NPV}}{\text{PV of Investment Flows}} \text{ OR } \frac{\text{NPV of non - investment flows}}{\text{PV of Investment Flows}}$$

$$\text{Accounting rate of return} = \frac{\text{Average expected accounting profit}}{\text{Initial(or Average) capital employed}}$$

Answers and Unit references – Section A

Question	Unit & LO	Correct answer	Question	Unit & Section in Book	Correct answer
AO1	Unit 3 (3.2.3) Calculations / LO8	D	A13	Unit 3 (3.1.1) LO7	A
A02	Unit 3 (3.2.3) LO8	A	A14	Unit 3 (3.3.2) LO9	A
A03	Unit 3 (3.1.2) LO7	C	A15	Unit 3 (3.1.2) LO7	D
A04	Unit 3 (3.2.2) LO8	B	A16	Unit 3 (3.1.3) LO7	B
A05	Unit 3 (3.2.1) LO8	B	A17	Unit 3 (3.3.3) LO9	D
A06	Unit 3 (3.2.3) Calculations / LO7	A	A18	Unit 3 (3.1.2) LO7	B
A07	Unit 3 (3.2.3) LO8	D	A19	Unit 3 (3.2.3) LO8	C
A08	Unit 3 (3.3.2) LO9	D	A20	Unit 3 (3.3.2) LO9	D
A09	Unit 3 (3.3.3) LO9	B	A21	Unit 3 (3.3.2) LO9	C,D,F
A10	Unit 3 (3.1.4) LO7	B	A22	Unit 3 (3.2.3) LO8	B,C
A11	Unit 3 (3.2.4) LO8	A	A23	Unit 3 (3.1.1) LO7	B,C,E
A12	Unit 3 (3.1.2) LO7	A	A24	Unit 3 (3.1.3) LO7	C,D

Question	Unit	Correct answer	Question	Unit	Correct answer
A25	Unit 3 (3.2.3) LO8	C,D,E	A28	Unit 3 (3.3.1) LO9	D,E
A26	Unit 3 (3.1.3) LO7	C,D,E	A29	Unit 3 (3.1.2) LO7	B,C,E
A27	Unit 3 (3.2.2) LO8	C,E	A30	Unit 3 (3.1.2) LO7	A,B,E

Answers and Unit references – Section B

Question	Unit & LO	Correct answer	Question	Unit & Section in Book	Correct answer
BO1	Unit 3 (3.2.1) LO8	B	B13	Unit 3 (3.1.2) LO7	D
B02	Unit 3 (3.2.1) LO8	A	B14	Unit 3 (3.1.2) LO7	B
B03	Unit 3 (3.2.3) LO8	C	B15	Unit 3 (3.2.1) LO8	A
B04	Unit 3 (3.2.3) LO8	B	B16	Unit 3 (3.3.4) LO9	A
B05	Unit 3 (3.2.3) LO8	C	B17	Unit 3 (3.3.4) LO9	B
B06	Unit 3 (3.1.4) LO7	A	B18	Unit 3 (3.3.4) LO9	A
B07	Unit 3 (3.1.4) LO7	C	B19	Unit 3 (3.3.1) LO9	D
B08	Unit 3 (3.1.4) LO7	C	B20	Unit 3 (3.3.1) LO9	B
B09	Unit 3 (3.2.3) LO8	C	B21	Unit 3 (3.3.1) LO9	B
B10	Unit 3 (3.1.4) LO7	C	B22	Unit 3 (3.3.1) LO9	B
B11	Unit 3 (3.1.2) LO7	A	B23	Unit 3 (3.3.1) LO9	C
B12	Unit 3 (3.1.2) LO7	D	B24	Unit 3 (3.3.1) LO9	B

Question	Unit & LO	Correct answer	Question	Unit & Section in Book	Correct answer
B25	Unit 3 (3.3.2) LO9	B	B28	Unit 3 (3.1.4) LO7	B
B26	Unit 3 (3.1.3) LO7	B	B29	Unit 3 (3.1.4) LO7	D
B27	Unit 3 (3.1.3) LO7	D	B30	Unit 3 (3.1.3) LO7	C

C1a	**Syllabus refs: U3:1.4:LO4, U3:1.2:L02**	**Mark Scheme** **i)** **Interest rate payable on the drawn down amount** Reference rate 1.50% + interest margin 0.5% = 2% GBP35m x 0.02 = GBP700,000 **Commitment fee on the undrawn portion** GBP15m x 0.003 = GBP45,000 **Utilisation fee** The amount drawn down over the hurdle proportion 90% - 80% = 10% = 0.1 50 basis points for 7 days GBP50m x 0.1 x 0.005 x 7/365 = GBP479.45 **Total cost** GBP700,000 + GBP45,000 + GBP479.45 = GBP745,479.45 **ii)** As a percentage of GBP35m GBP745,479.45/35,000,000 = 2.13%	**1 mark** **1 mark** **1 mark for approach, 1 mark for correct solution** **1 mark** **1 mark** **(maximum of 6 marks)**
C1 b		**Fall in share price** New shares in a rights issue are almost always offered at a discount. JL is a profitable, growing company. This means that the discount offered would probably be reasonably low. The discount compensates existing shareholders for a likely fall in share price due to the issuance of new shares. **Dilution in economic value** Pre-emption rights are designed to protect existing shareholders. Existing shareholders have a contractual right but no obligation to buy new shares before they are offered to any new person or entity. They can therefore take advantage of the discounted share price on offer if they take up their rights or can sell their rights in the market if they do not want to take them up as rights are tradeable. **Dilution of proportional voting power** The protection of proportionate voting power is to prevent dilution of control of the company. Shareholders have the option of either taking up their rights to retain their proportionate power or be compensated for giving an element of power up by selling their right.	**1 mark** **1 mark** **1 mark** **1 mark** **(maximum of 4 marks)** **Total 10 marks**

C2a — **Syllabus refs: U3:3.3:LO11, U3:3.4:LO12**

	Year	Year 2	Year 3
	EUR	EURm	EURm
Earnings before Interest and Tax (EBIT)	100	125	132
Less tax payments	(30)	(32)	(32)
Add back depreciation	15	16	18
(increase)/decrease of working capital	(2)	5	(3)
Less Capital expenditure	(20)	(25)	(28)
= net cashflow for discounting	63	89	87

1 mark
1 mark
1 mark
1 mark
(maximum of 4 marks)

C2 b

Underestimated capital expenditure
AF is currently shifting to a carbon neutral business model. It had to forecast capital expenditures but will not have much experience regarding what is required, so placing reliance on historical numbers might result in inaccurate forecasts. It is difficult to accurately quantify capital expenditures and the impact on other areas of its business.

Impact on working capital
A strategic shift in a capital-intensive sector such as the steel industry means that working capital is impacted as well. AF will almost certainly have an increased working capital requirement as it moves into new business areas, however changes in working capital in the cashflow forecast are small. Can AF rely on these numbers or are they overstating free cashflow?

Peak years/Cyclicality
AF has increased profitability year after year. A forecast may be based on historical peak year experiences, meaning that EBIT might be overstated and thus, net free cashflow overstated.

Three year forecast
A strategic shift towards sustainability is a long-term commitment. AF's forecast is only for three years which is not long enough to get a good overview. A perpetuity to calculate entity value is difficult to determine.

NB: Candidates could make other points relevant to the scenario and credit should be awarded for reasonable answers.

Holistic marking- as a guide 1 mark per problem identified (maximum 2)

1 mark per valid description (maximum 2)

(maximum of 4 marks)

C2c

'Multiple' valuation methods
Valuation multiples give the ratio of value to the measure on which the valuation is based. One example is the ratio of the market value of an investment, to the annual net cashflow available to the investor.

For example, if the market value is EUR200m and the annual net cashflow is EUR10m, the valuation multiple is 200/10 = 20.

1 mark for description or generic example

		For AF, we want to determine the entity value. We can use an **EBITDA multiple, an EBIT multiple, free cashflow or operating free cashflow multiples.**	**1 mark for example AF** **(maximum of 2 marks)** **Total 10 marks**
C3a	**Syllabus refs: U3:1.3:L03**	**Foreign bond** **A foreign bond is a bond issued by a foreign borrower into a country's domestic market in that market's currency.** • BHG wants to issue debt in EUR. It can issue a foreign bond in EUR in Germany. • Foreign bonds can be issued like straight bonds. BHG has steady revenue streams, low cyclicality and a supporting multicurrency revolving credit facility in place. A foreign bond with semi-annual or annual coupon payments is recommendable. • Maturity of the bond should be five years. In two years, BHG forecast to receive revenue streams from its hotels in Germany. This gives BHG enough time to repay the principal and fixed interest at the end of year five in EUR. **NB: Candidates could make other points relevant to the scenario and credit should be awarded for reasonable answers.**	**1 mark for definition** **1 mark per bullet point** **(maximum 4 marks)**
C3 b		**Credit rating** BHG has an investment grade rating. This is favorable and reduces the credit spread payable. **Security** The bond is asset backed. This adds security to the lenders and decreases the risk. Thus, it reduces the credit spread. **Covenants** BHG has headroom on credit facility covenants. This gives them a lot of flexibility to accept tighter covenants on the bond and thus, reduces credit spread.	**1 mark per title (maximum 3 marks)** **1 mark per explanation (maximum 3 marks)**
C3c		**Liquidity** The bond market in Frankfurt is large and very liquid. This has a favorable effect on the credit spread of BHG's bond. **Market conditions** When the economy is growing, lenders are more likely to invest in bond issuances. It is easier for BHG to borrow under good economic conditions, credit spreads are probably a bit lower.	

		Maturity BHG wants to borrow for five years which is relatively short. The shorter maturity, the lower the risk. This has a positive impact on BHG's credit spread. **Size of the bond** The size of BHG's bond is relatively small. It has strong earnings and headroom with covenants. This should have a positive impact on the spread. **NB: Candidates could make other points relevant to the scenario and credit should be awarded for reasonable answers.**	**Total 10 marks**
C4a	**Syllabus refs: U3:2.4:LO8, U3:3.1:L09, U3:3.2:LO10**	**Cost of equity** K_e = 2% + (1.2 x 6%) = 9.2% **After-tax cost of debt (bond yield to maturity)** K_d = 2% x (1 – 0.30) = 1.4% **Ordinary Shares** 1,000,000 shares x EUR2 = EUR2,000,000 **Bond** EUR2,500,000 x 1.03 = EUR2,575,000 **Equity/debt** EUR2,000,000/2,575,000 = 43.72% equity/56.28% debt **After-tax cost of capital** WACC = (0.4372 x 9.2%) + (0.5628 x 1.4%) = 4.81% **Discount cashflows** Annuity factor = $(1-1.0481^{-5})/0.0481$ = 4.3523 EUR60,000 x 4.3523 = EUR261,138 **Terminal value** EUR10,000/0.0481 = EUR207,900 x 1.0481^{-5} = EUR164,377 **Net present value** EUR261,138 + EUR164,377 – 250,000 = EUR175,515	**½ mark** **½ mark** **½ mark** **½ mark** **½ mark** **½ mark** **½ mark** **1 mark** **1 mark** **(maximum 6 marks)**

C4b

Payback technique

Year 0	-250,000	-250,000
Year 1	60,000	-190,000
Year 2	60,000	-130,000
Year 3	60,000	-70,000
Year 4	60,000	-10,000
Year 5	60,000	50,000

EUR 10,000/EUR 60,000 = 0.17 or 62 days (two months).

It takes four years and 62 days to pay back the initial investment.

1 mark for four years

1 mark for four years and two months

(50 months)

(maximum 2 marks)

C4c

Shortcomings of the payback technique

- It encourages **short-termism**.
- Many companies use payback as a component in the decision-making process, but it is almost always the case that companies also use more sophisticated techniques such as NPV, in order to obtain an understanding of the impact of changing the assumptions underlying each project.
- Payback ignores the time value of money. Cashflows received during the early years of the project get a higher weight than later cashflows received in later years.

1 mark per valid point

Total 10 marks

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