MANAGERIAL FINANCE

PROFESSIONAL 1 EXAMINATION - APRIL 2019

NOTES:
Section A – Answer Question 1 and Question 2 and **either** Part A **or** Part B of Question 3.
Section B – Answer Question 4 and **either** Part A **or** Part B of Question 5.
Should you provide answers to both Parts A and B in Question 3 and/or Question 5, you must draw a clearly distinguishable line through the answer Part(s) not to be marked. Otherwise, only the first answer(s) to hand for each of these questions will be marked.

MANAGERIAL FINANCE TABLES ARE PROVIDED

TIME ALLOWED:
3 hours, plus 10 minutes to read the paper.

INSTRUCTIONS:
During the reading time you may write notes on the examination paper, but you may not commence writing in your answer book. **Please read each Question carefully.**

Marks for each question are shown. The pass mark required is 50% in total over the whole paper.

Start your answer to each question on a new page.

You are reminded to pay particular attention to your communication skills, and care must be taken regarding the format and literacy of your solutions. The marking system will take into account the content of your answers and the extent to which answers are supported with relevant legislation, case law or examples, where appropriate.

List on the cover of each answer booklet, in the space provided, the number of each question attempted.

NB: PLEASE ENSURE TO ENCLOSE YOUR ANSWER SHEET TO QUESTION 4 IN THE ENVELOPE PROVIDED.

THE INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS IN IRELAND

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Time allowed 3 hours, plus 10 minutes to read the paper.

SECTION A
(Answer Questions 1 and 2 and either Part A or Part B of Question 3)

1. W Limited is a private family-run business considering introducing a new Enterprise Resource Planning (ERP) system. This will automate its existing manual system while achieving many efficiency benefits primarily in its supply chain and stock management systems. The company was started by Bill Canny, now managing director, over 40 years ago to produce and sell high-quality breakfast cereal. The cereal production process involves the acquisition of the raw materials that are cleansed, mixed, tested and packaged in boxes and larger cartons. Bill's son, Dave, is the production manager, and his other son, Trevor, manages the sales and marketing function. Bill's daughter, Emily, a CPA, is in charge of the stock management system and the finances. She has identified that the company needs to automate its procedures system and suggests that a Just-in-Time (JIT) approach should be introduced to improve its stock management in tandem with the ERP system. She maintains that the ERP system could also be used as the basis for reorganising the business processes and adopting the JIT system. These improvements would enable the company to respond to customer demand more effectively, leading in turn to larger sales volumes over the next five years. Dave is in favour of the improvements, but has indicated that the factory layout would need to be modified, requiring significant capital investment in production machinery. Trevor has generated extra sales orders that can be fulfilled only if the new ERP system is introduced.

To assist in the decision as to whether the ERP system should be introduced, Bill has asked Emily to review the costs and benefits, and to collate the figures with projections for the next five years while evaluating the investment proposal. Emily has retained you in order to assist her with the evaluation process. A sum of €50,000 has been incurred to date to determine the costs and revenue estimate outlined below.

It has been estimated that with the introduction of the ERP system, extra sales figures over the next five years will be as follows:

Year	**Sales in Units of Premium Cereal (Large Packaged Units)**
Year 1	30,000
Year 2	35,000
Year 3	40,000
Year 4	42,000
Year 5	38,000

The variable manufacturing costs are as follows:

	€
Direct Materials	8
Direct Labour	11
Variable Overheads	6

Additional Information:

The fixed manufacturing overheads associated with the extra production volumes are estimated to be €60,000 per annum. However, when output increases beyond 39,000 units this will require additional supervisory costs, while annual fixed manufacturing costs will increase by a further €20,000 per annum.

Variable selling and distribution costs are estimated to be €3 per unit, while the fixed selling and distribution costs are expected to be €25,000. However, it is expected that the fixed selling and distribution costs will be stepped in nature, with the result that these will increase by €12,500 when sales exceed 35,000 units, and a further €8,500 when sales exceed 40,000 units.

In addition to these costs, you ascertain the following:

Cost of purchasing and implementing ERP selected software	€200,000
Capital cost of extra production machinery	€400,000
Resale value of extra production machinery after 5 years	€15,000
Depreciation of extra production machinery (straight-line basis)	€77,000 per annum
Amortisation of software costs (straight-line basis)	€40,000 per annum

In your conversations with Emily and the management team, you ascertain that the above estimates have not taken account of reduced stockholding costs contingent on implementing the JIT system. The company historically has a poor record in managing stock levels. It has now been reliably estimated that initial cost savings in Year 1 will be €20,000 and that these savings will increase by 10% per annum over the remaining four years.

The selling price of the large packaged units of cereal is expected to stay at its current level of €40 per unit for the next two years, but will increase by 5% in Year 3 of the project and remain at that level.

The company's cost of capital is 10% per annum. The company expects the investments to deliver positive pre-tax Net Present Value (NPV) over the life of the five-year project, and a minimum payback period of two years.

REQUIREMENT:
Prepare extracts from a Report to Bill Canny, the managing director with the information presented in the following order:

(a) A table showing the results of your calculations and initial recommendations based on the (1) Payback, and (2) NPV methods.

Include any detailed workings on separate pages as an appendix to your report. For the NPV calculation, figures may be rounded to the nearest € euro. For the Payback calculation, rounding is required to two decimal places.

(15 marks)

(b) Discuss the non-financial factors that should be considered by the company in deciding whether to invest in this project.

(5 marks)

(c) In a separate extract from your report, discuss the key benefits and issues that may arise from the implementation of a JIT system in the company.

(5 marks)

[Total: 25 Marks]

2. One of your clients is considering investing in either of two shares A or B. You have obtained through research, the following information:

Economic Outlook	Probability	Return on Share A (%)	Return on Share B (%)
Optimistic	0.1	20	15
Realistic	0.4	15	14
Stable	0.3	10	13
Pessimistic	0.2	4	10

REQUIREMENT:

(a) Calculate the expected return, the standard deviation, and the co-efficient of variation of returns for each share.

(8 marks)

(b) Evaluate the usefulness of the above statistical measures in the context of portfolio theory. (12 marks)

[Total: 20 Marks]

3. Answer <u>either</u> Part A <u>OR</u> Part B.

Part (A)

"The objective of financial managers is to make decisions that maximise long term shareholder wealth. It is therefore important to stress the high level of interdependence between decisions in the three core areas of managerial finance – investments, financing and dividends" (Watson and Head, 2010)

REQUIREMENT:

Evaluate this principle and illustrate your answer with practical examples of costs and revenues that should be included or excluded for a company considering an investment in a UK subsidiary in the next year.

[Total: 15 Marks]

<u>OR</u>

Part B
A key principle in financial management is that investment appraisal should be based on incremental relevant cash flows.

REQUIREMENT:
Evaluate this principle and illustrate your answer with practical examples of costs and revenues that should be included or excluded for a company considering an investment in a UK subsidiary in the next year.

[Total: 15 Marks]

SECTION B

Answer Question 4 and either Part A OR Part B of Question 5.

4. ***The following multiple-choice question contains eight sections, each of which is followed by a choice of answers. Each question carries equal marks. On the answer sheet provided, indicate for each question which of the options you think is the correct answer. Marks will not be awarded where you select more than one answer for any question.***

INFORMATION RELEVANT TO REQUIREMENTS 1, 2, 3, and 4 ONLY

Extracts from the Statement of Financial Position as at 31 December 2018 for JJ plc have been provided below:

	€m
8% Debentures Irredeemable (€100 each)	30
9% Preference Shares (€20 each)	20
Ordinary Shares (€1 each)	1.75

Other relevant information:

- The corporation tax rate is 12.5%.
- The market value of the ordinary share is €23.50 per share.
- The market value of the preference share is €26 per share.
- The current risk free rate on government bonds is 6%.
- Ordinary shares have a beta of 1.7 (as measured over the past five years of monthly returns that may be taken as the appropriate adjustment to the average risk premium).
- The market return (using the S&P 500 as the relevant index) is 13%.
- The market value of the Debenture is €107 per Debenture.

REQUIREMENT:

1. The company's current cost of debentures is approximately:

(a) 7.48%
(b) 7.10%
(c) 6.55%
(d) None of the above.

2. The company's current cost of preference shares is approximately:

(a) 6.10%
(b) 6.92%
(c) 8.10%
(d) None of the above.

3. The company's current cost of ordinary shares is approximately:

(a) 11.9%
(b) 17.9%
(c) 6.1%
(d) None of the above.

4. The annual holding cost for a product is 20% of the purchase price. The cost per order is €30. Based on total annual demand, the total cost of purchases for a product is €648,000 at €60 per unit. Using this information, the Economic Order Quantity (rounded to the nearest unit) is :

(a) 232 units
(b) 160 units
(c) 464 units
(d) None of the above.

INFORMATION RELEVANT TO REQUIREMENTS 5 AND 6 ONLY

You have extracted the following information from the financial statements of C Limited as at 31 December 2018:

Inventory	€465,000
Receivables	€820,000
Payables	€560,000
Gross Profit	€1,920,000
Gross Margin	48%
Variable Costs	€1,600,000
Fixed Costs	€2,280,000
Selling Price	€100

5. Based on the information provided above, rounded to the nearest day, what is the operating cycle in days (also known as the 'cash conversion cycle')?

(a) 52 days
(b) 174 days
(c) 58 days
(d) None of the above.

6. Based on the information provided above, what is the margin of safety in % terms?

(a) 10%
(b) 5%
(c) 15%
(d) None of the above.

7. In relation to long-term sources of finance which of the following statements are correct?

(i) Once convertible loan stock has been converted to equity it cannot be converted back.
(ii) Fixed interest debt finance has the advantage that it commits the company to known cash flows required to service the debt.
(iii) Loan capital always ranks behind share capital in the event of a winding-up situation.

(a) (i) and (ii) only
(b) (i) and (iii) only
(c) (ii) and (iii) only
(d) None of the combinations listed above.

8. In relation to leasing as a form of finance, which of the following statements are correct?

(i) In the case of an Operating lease the lessee hires the asset for a period that is normally more than its useful economic life.
(ii) The lessee can obtain capital allowances and pass the benefits to the lessor in the form of lower lease payments.
(iii) Leasing imposes restrictive covenants on the lessor.

(a) (i) and (ii) only
(b) (i) and (iii) only
(c) (ii) and (iii) only
(d) None of the combinations listed above.

[Total: 20 Marks]

5.

Answer either Part (A) OR Part (B)

Part (A)

C Limited manufactures aluminium windows for the construction industry (average selling price of €25 per unit). The company uses a standard marginal costing system in accounting for labour and material costs. The following standard cost card for the variable cost of production at the start of the year, based on normal production output of 40,000 units per annum (i.e.10,000 units per quarter) has been produced:

	€
Material (10 metres @ 60c per metre)	6.00
Direct Labour (4 hours @ €2 per hour)	8.00
Variable Manufacturing Overhead (4 hours @ €1 per hour)	4.00

The company has estimated variable administration costs (based on normal production output of 40,000 units) as €2 per unit.

The fixed production overhead is estimated at €120,000 per annum while the fixed administration overhead is estimated at €80,000 per annum. These overheads are incurred evenly throughout the year.

The company is reviewing the first three months ending on 31 March 2019.

For this three month period, C Limited produced and sold 9,500 units generating revenue of €237,500.

The variable cost of production for the three month period was:

Actual Variable Costs:	€
Materials (100,000 metres)	61,000
Labour (40,000 hours)	72,000
Variable Manufacturing Overhead	40,000
Total Variable Costs	173,000

Other costs incurred for the three-month period ending 31st March 2019 were;

	€
Variable Administration Overhead	24,000
Fixed Production Overhead	18,000
Fixed Administration Overhead	22,000

The financial controller asked a trainee to prepare an Operating Statement that highlights the variances between the actual and budgeted profit.

The trainee produced the Operating Statement, using the static budgeted output of 10,000 units as follows:

Sales Units – Budgeted	10,000	
Sales Revenue		€250,000
Direct Materials	€60,000	
Direct Labour	€80,000	
Variable Manufacturing Overhead	€40,000	
Variable Administration Overhead	€20,000	€200,000
Contribution		€50,000
Fixed Production Overhead	€30,000	
Fixed Administration Overhead	€20,000	€50,000
Net Profit		**€0**

The financial controller analysed the Operating Statement that had been prepared. She then indicated to the trainee that it was incorrect to produce a static budget and that a flexed budget was required using the actual volume of 9,500 units.

The financial controller said to the trainee – *"We made a profit during the quarter ending 31 March 2019 and when you prepare a flexed budget it will show a loss. Furthermore, your variances (favourable and adverse) will highlight the differences in key operating areas of our business when you redraft this budgeted statement".*

The management team is keen to receive a report on the financial performance for the quarter ending 31 March 2019.

REQUIREMENT:

(a) Prepare the flexed budget, using the actual volume of 9,500 units. (4 marks)

(b) Prepare an Operating Statement for the quarter ending 31 March 2019 reconciling the actual profit with the loss figure from the flexed budget (you are not required to show monthly figures). (4 marks)

(c) Suggest reasons why any variances arose. (12 marks)

[Total: 20 Marks]

OR

Part (B)

There are several methods that can be used by a company to initially raise equity capital.

REQUIREMENT:
Compare and contrast any four methods from several perspectives including cost, risk, spread of ownership, size of issue, publicity, and other relevant factors.

[Total: 20 Marks]

END OF PAPER

SUGGESTED SOLUTIONS

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MANAGERIAL FINANCE

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SOLUTION 1

REPORT

TO: Managing Director of W Limited
FROM: CPA Financial Consultant

RE: Proposed Investment in ERP System

This report presents the results of the investment appraisal of the proposed ERP system using the NPV and Payback methods.

	Introduction of ERP System	**Recommendation**
Method		
NPV (in €000s)	€945,000 (approx.)	Accept as considerable positive NPV over life of 5 years
Payback	1.93 Years	Accept as within payback period of less than 2 years

Recommendation:
On financial criteria alone, we would recommend acceptance of this project as there is a positive NPV and the payback period is less than two years. Non-financial criteria would need to be investigated e.g. the reliability of the cash flows would require further examination, the supplier (s) acceptance of the JIT system – these are just two non- financial considerations that will require closer examination.

(a) **W Limited**

Large Packages - Cereals

Selling Price	40	Yr1	Yr2	Yr3	Yr4	Yr5
		2xxx9	2xxx10	2xxx11	2xxx12	2xxx13
Sales (Units)		**30,000**	**35,000**	**40,000**	**42,000**	**38,000**
Revenue		1200000	1400000	1680000	1764000	1596000
Selling Price		40	40	42	42	42
Dir Material	8					
Dir Labour	11					
Variable Mnfng O/Head	6					
Variable Sel & Distn Costs	3	28				
Contribution per Unit		**12**	12	14	14	14

Relevant Cash Flows

	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Cash Outflows						
ERP System Cost	200000					
Production Machinery Cost	400000					
Units		**30,000**	**35,000**	**40,000**	**42,000**	**38,000**
Manufacturing Costs (Fixed)		60000	60000	80000	80000	60000
Selling & Distribution Costs (Fixed)		25000	25000	37500	46000	37500
Total Cash Outflows	600000	85000	85000	117500	126000	97500
Cash Inflows						
Contribution		360000	420000	560000	588000	532000
Cost Savings from Stock holding		20000	22000	24200	26620	29282
Resale of Production Machinery		0	0	0	0	15000
Total Cash Inflows		380000	442000	584200	614620	576282
Net Cash Flow	-600000	295000	357000	466700	488620	478782
NPV @ 10%	1	0.909	0.826	0.751	0.683	0.621
	-600000	268155	294882	350491.7	333727.46	297323.62
		1544579.8				
Overall NPV	**944579.78**			Positive NPV		
				Accept		

		Yr1	Cumulative Yr 2
Payback		295000	652000
	-331845		
		0.9295378	
		1.93 Years	

(b) Non-Financial Factors

- ERP System Supplier – Their reputation, track record and reliability as W Limited will be dependent upon them. Reference sites from the supplier that are in similar business to W Limited that have implemented the ERP system & ideally the JIT system.
- What implementation plan have the ERP supplier discussed with W Limited – parallel run Vs direct changeover ; duration of the testing period; is there a dedicated Project Manager
- Training period being provided & training arrangements – will extra staff be required by W Limited
- Sales Estimates – reliability of these figures & the assumptions that W Limited have made.
- JIT System will involve close relationships with Suppliers - reliability of these Suppliers & ideally, W Limited should have held preliminary discussions with them.
- Leasing or other options to reduce the outlay – have W Limited investigated these options

(c) JIT is an abbreviation for Just in Time. The main thrust of JIT is optimised stock management so that raw materials arrive into production exactly when they are required for that particular stage of production. In the case of this company W Limited, the raw material un-malted cereals may not be required until the later production stages. This saves on storage & warehousing costs and can lead to cost efficiencies. For JIT to be effective it requires close inter – relationships with suppliers and accurate demand forecasting so that suppliers are aware in advance of sales requirements and expected lead times for delivery of those raw materials. Supplies ideally should move directly from the unloading bay to the production line for that stage of production where the materials are required.

SOLUTION 2

(a)

Investor A

Share A	Prob	Returns A	Expected Returns A	Mean Deviation A	Mean Dev Squared	Prob x Mean Dev Sqrd	Std Dev A
Optimistic	0.1	20	2	8.2	67.24	6.724	
Realistic	0.4	15	6	3.2	10.24	4.096	
Stable	0.3	10	3	-1.8	3.24	0.972	
Pessimistic	0.2	4	0.8	-7.8	60.84	12.168	
			11.8			**23.96**	**4.89**

Share B

Returns B	Prob	Exp Returns B	Mean Deviation B	Dev Sqrd	Prob * Mean Dev Sqrd	Std Dev B
15	0.1	1.5	2	4	0.4	
14	0.4	5.6	1	1	0.4	
13	0.3	3.9	0	0	0	
10	0.2	2	-3	9	1.8	
		13			**2.6**	**1.61**

Co-Efficient of Variation (CV) Can be used in Part B as similar returns for Share A & share B

Std Dev/ Exp Return	Share A	Share B
	0.41	0.12

Share B preferable as it has lower CV

(b) For both individuals and companies, the key considerations are the return that is required and the risk associated with the portfolio.

If we can assign a probability to a variety of likely returns then we can establish the expected return of a security. When we use the term expected return it will be the sum of the probabilities of the return that the security will generate. In effect, expected return is calculated by multiplying potential outcomes by the likelihood of them occurring and then summing these results. This expected return is a statistical measure.

- The security or outcome can be represented as X
- The probability of the outcome can be represented as p
- The expected return is Px
- ∑p X is the sum of the probabilities of the expected return

There can be a high degree of variability in the expected returns for a security or portfolio of securities and hence there is the risk that we may not gain a return or that we may receive a lower return that we expected. Because of this variability, we need a measurement of the risk. Standard Deviation can be a statistical measure of how likely it is that the expected return will be achieved. It measures the variability of returns about the mean or average

A high standard deviation implies greater variability of actual return while a low standard deviation implies that there is smaller risk for a given security or portfolio or Investment. We can say that the preferred position is high expected returns with low standard deviation. Standard Deviation can be represented as σ

What if there were two securities that had the same return and we had to choose just one (possibly because of limited funds) we would select the security with the lowest standard deviation. If both securities had the same standard deviation, we would select the one with the highest return. Frequently we need to calculate the measure of risk per unit of return – this is the Coefficient of Variation. This is calculated as Standard Deviation divided by expected return. σ/ x'

In the shares example it is desirable to calculate the Co – Efficient of Variation CV as both shares have similar return. We select the share with the lowest CV as this has the lowest risk per unit of return. (Share B)

All securities have this risk/reward relationship.

To derive maximum benefit from these statistical measures – probability, expected return, standard deviation and co-efficient of variation – they need to be considered in conjunction with other aspects of Portfolio Theory

- Diversification to reduce risk further

A way of reducing risk is to diversify your selections. Means of diversification would include securities from different industry sectors, different geographical markets and inclusion of different forms of securities/investments ranging from shares, bonds, property, and commodities to cash.

- Proportionate selections of Securities A & B instead of investing 100% in either A or B

Portfolio returns are a weighted average of the expected returns on the individual investments (e.g., 60% of A and 40% of B)

- Concept of correlation and meaning of positive, negative and perfect correlation using examples e.g. umbrellas & ice cream – negative correlation, umbrellas & raincoats – positive correlation ; computers & bread – no correlation

Portfolio standard deviation is less than the weighted average risk of the individual investments, except for perfectly positively correlated investments

More comprehensive appraisal of risk for Investors using systematic and unsystematic risk

While the standard deviation can be used as a measure of risk with the Co Efficient of Variation being used as a measure of risk per unit of return and a basis for comparison between projects, it is also desirable for investors and companies to engage in a more comprehensive appraisal of risk before committing funds to a project. This classification of risk encompasses systematic and unsystematic risk.

Systematic risk is risk that affects all projects or investment decisions as it is macro-economic related – interest rates, exchange rates, and Government policies. It therefore cannot be diversified. Unsystematic risk on the other hand is unique to the securities or investments selected as it relates to the sector and the company specifics. It can be diversified and as we have seen earlier by holding an appropriate mix of selections in the portfolio this type of risk can be reduced further.

Markowitz in his work with Portfolio Theory concentrated on unsystematic risk and Sharpe in his later work on the Capital Asset Pricing Model concentrated on systematic work on the basis that unsystematic risk had already been fully diversified through the earlier work of Markowitz.

SOLUTION 3

Part A

(a) There is a difference between short- and long-term objectives. In the short-term, profits and cash flow must be enough to ensure the survival of the company, but owners will want to receive dividends. The need to strike a balance between short-term and long-term objectives could lead to conflicts between objectives even within the objective of maximising shareholder wealth.

Although shareholder wealth maximisation is the primary financial objective, most companies will usually have other objectives as well. In addition to responsibilities to shareholders, companies will have responsibilities to employees, trade payables, suppliers, the government and the general public. The diverse interests of these stakeholders will influence corporate objectives and act as a restraint on the objective of shareholder wealth maximisation. Other corporate objectives could include:

- Providing for the welfare of managers - Managers may seek to improve their own personal wealth, status or working conditions. For example, managers may pay themselves high salaries under generous employment contracts, or they may resist a takeover bid because they wish to protect their jobs rather than recommending an attractive bid to shareholders.

- Providing for employee welfare Employees must be paid attractive wages and work under good conditions of employment. In the short-term, providing for employee welfare appears to conflict with the objective of shareholder wealth maximisation, because paying higher wages means that profits will be lower. In the long-term, however, employees who are well paid and who are satisfied with their working conditions may work more efficiently and effectively, contributing to increased profits. In this case, there is no conflict between the objective of providing for employee welfare and the objective of shareholder wealth maximisation.

- Providing for the welfare of society as a whole companies have obligations to society as a whole. Many companies spend heavily on measures promoting social welfare, even though this may reduce profitability. Such measures include environmental protection measures, supporting community programmes, giving to charities and so on. However, failure to take environmental protection measures may lead to their imposition through legislation, and customer-buying patterns may be negatively influenced if a company acquires a reputation as uncaring and environmentally irresponsible. Undertaking measures promoting social welfare may, therefore, not be inconsistent with shareholder wealth maximisation.

(b) If we start with **Investments** - When company decides to take on new Investments they may seek finance from a bank or financial institution – the effect on dividends is that there is less money available for dividends & they may have to be cut to finance the investment projects.

If we start with **Dividends** and the company decides to pay dividends there is less internal finance or retained earnings available to finance investment projects and the company may have to seek external finance. This finance will incur interest and as this expense has higher priority ahead of dividends then dividends may have to be reduced in the next period. If the finance is not available from banks or financial institutions Investment projects may have to be deferred.

If we start with **Finance**, where the company seeks this finance from external parties this may result in interest charges and a higher cost of capital as the bank builds a higher risk premium in advancing the loan – the interest rate reflects from the bank's perspective their risk premium. The company now has to pay a higher cost of capital and less projects will be financed or made available. This in turn means that the ability to pay dividends is seriously curtailed.

Part B

- Past Costs
- Common future costs
- Opportunity Costs
- Working Capital Adjustment
- Tax
- Cash flows – not profit flows
- Interest payments
- Allocation of Central overheads
- Reliability of Forecasts
- Assumptions Used
- Timing of cash flows and year end assumption

The candidate in the answer should expand upon each of these

SOLUTION 4

Q1 C
Q2 B
Q3 B
Q4 A
Q5 C
Q6 B
Q7 A
Q8 D

Q1 C

Cost of Debentures

After tax cost of Debt = kd (1 – T)

Where

k_d = Pre-tax cost of capital
T = Companies applicable tax rate
k_d = (€30,000,000 x 0.08) / (300,000 x €107)
= €2,400,000 / €32,100,000
= 7.48%

After tax cost of Debt = 7.48% x (1 - 0.125)
= 7.48% x 0.875
= 6.55% **(C)**

Q2 B

Cost of Preference Shares
= (€20,000,000 x 0.09) / (1,000,000 x €26)
= €1,800,000 / €26,000,000
= 6.92% **(B)**

Q3 B

Cost of Equity (using CAPM)

" = % + (, %)

Where:

r_a = Cost of equity
r_f = Risk free rate of return
ß = Coefficient of the stock with the market
r_m = Market return
r_a = 6% + 1.7(13% - 6%)
= 6% + 11.9%
= 17.9 % **(B)**

Q4 A

EOQ

Q4.4	**Economic Order Qty**			
			648,000	**10800**
Sq Rt 2 x D x O / H			60	
Sq Rt	2 X 10,800 X 30 / 60 X 0.2			
Sq Rt	2 X 10,800 X 30 /12			
Sq Rt	21,600 X 30/12			
Sq Rt	1800 X 30			
Sq Rt	54000	232.379		
			232 Units (A)	

Q5 C

Q4	**MCQ**				
	4.5				
	Inventory	465,000			
	Receivables	820,000			
	Payables	560,000			
	Gross Profit	1,920,000		500,000	
	Gross Margin	48%		50%	
	Sales	4000000		1000000	
	Cost of Sales	2,080,000			
	Ratios				
		365			
Days	Receivables/Sales x 365		74.825		
Days	Stock/Cost of Sales x 365		81.59856		
Days	Payables/Cost of Sales x 365		98.26923		
			58	days	C

Q6 B

	Selling Price per Unit	100			
	No of Units	40000			
	Var Cost per Unit	40			
	Total Var Costs	1600000			
	Contribution	60			
	Breakeven	38000			
	Fixed Costs	2280000			
	Margin of Safety	2000			
	% Margin of Safety	**5%**			(B)

Q7 A

In relation to long-term sources of finance which of the following statements are correct?

(i) With convertible Loan stock once it has been converted to equity it cannot be converted back
(ii) Fixed interest debt finance has the advantage that it commits the company to known cash flows required to service the debt.
(iii) Loan capital always ranks behind share capital in the event of a winding-up situation

In the case of Loan capital it always is prioritised above share capital in a winding up situation

Only possible answer is **(A)**

Q8 D

In relation to leasing as a form of finance which of the following statements are correct?

(i) In the case of an Operating lease the lessee hires the asset for a period that is normally more than its useful economic life

(ii) The lessee can obtain capital allowances and pass the benefits to the lessor in the form of lower lease rentals.

(iii) Leasing imposes restrictive covenants on the lessor

Only possible answer is **(D)** as all three statements are incorrect

Less than its useful economic life
Lessor obtains the capital allowances (not the lessee)
There are no restrictive covenants with Leasing

SOLUTION 5

Part A

(a) Flexed Budget based on Actual Volume of 9,500 Units

C Limited Based on Sales of 9,500 Units per quarter	**Flexed Budget**
Sales Units	9,500
Sales Price	25
Sales Revenue	237500
Direct Materials	57,000
Direct Labour	76,000
Variable Production O/Head	38,000
Variable Administration O/Head	19,000
Total Variable Costs	190,000
Contribution	47,500
Fixed Costs	
Fixed Production O/ Head	30,000
Fixed Admin O/ Head	20,000
Total Fixed Costs	50,000
Budgeted Profit	**-2,500**

(b) Operating Statement with Variances reconciling difference between Budgeted and Actual

	C Limited		**Variance Analysis**		
			Variances Favourable	**Variances Adverse**	**Total**
Budgeted Contribution	10,000 *	25-20			50,000
Variances					
Sales Price	(26-25) *	9500	9500		
Sales Volume	(10000 -9500) *	(25-20)		2500	
Material Price	(0.61- 0.60)	100,000		1000	
Material Usage	100,000 - (9500 *10) * 0.60			3,000	
Labour Rate	(1.80 - 2.00) * 40,000		8000		
Labour Efficiency	(40,000 - (4 *9500) * 2	2.5		4000	
Var Prodn O/Head Rate Variance	€4 - €4			0	
Var Prodn O/Head Efficiency Variance	40,000 - (4*9500) *1			2000	
Var O/Head Spending Variance	24000 - (9500* 2)			5000	
Fixed Prodn O/Head Spending Variance	18,000 - 30,000		12,000		
Fixed Admin O/Head Spending Variance	22,000 - (80,000 /4)			2,000	
			29500	19500	
Actual Profit					**10000**

(c) Reasons why variances arose

Sales Variances – Price Variance favourable as the sales price gained higher than planned.
Volume variance adverse as volume sold less than anticipated
Material Price variance adverse as price paid by buyer higher per material than planned. Material usage variance adverse as more materials required & Labour efficiency variance adverse as increased idle time with machines and labour used with the materials
Variable overhead efficiency variance also adverse as increased light & heat and factory overheads that are variable (e.g. lubricants/cleaning materials) used with materials and machines and labour utilised

OR

Part B

There are seven Methods:

1. Offer for Sale
2. Offer for Sale by Tender
3. Introduction
4. Offer for Subscription
5. Placing
6. Intermediaries Offer
7. Rights Issue

Four methods requested – brief explanation of the four methods selected before comparing and contrasting

Offer for Sale
General Public: Cost - Fixed Price determined by Directors and financial advisers.
Spread of ownership – wide as general pubic compared to Introduction where low spread as selected shareholders or bidders or interested parties used
Risk is higher as Offer for Sale may have to be withdrawn – Example being Digicel 2016 when Denis O Brien decided to withdraw as timing not right. Difficult to return to market in short term from public perspective. Publicity factor higher than Introduction – example Private Companies going for Initial Public Offering this year e.g. Lyft, Air BnB

Offer for Sale by Tender
General Public. Cost - Not a Fixed Price – Set minimum price & invite tenders
Investors invited to state a price at which they are willing to buy.
Company gathers the applications, agrees the strike price – price that takes up all the shares
Shares offered at the strike price; those who bid below the strike price are not offered any shares.
Useful where difficult to value a company (no comparable Company exists) or level of demand for shares – level of public interest difficult to gauge

Factors affecting Offer for Sale apply but risk reduced

Introduction
Shares already quoted on another Stock Exchange or shares held by large number of shareholders with more than 25% held by public (under Stock Exchange regulations).
Cost: Cheapest method – no underwriting costs & method is not designed to raise any new money
Foreign Company introduced to London Stock Exchange or a company that is already on the AIM (Alternative Investments Markets) being introduced to the full Stock Exchange

Risk level lower than Offer for Sale; publicity lower

Offer for Subscription
Similar to Offer for Sale but is only partially underwritten or not underwritten at all.
If share issue does not raise the minimum amount, abort it
Less risk as possibility of aborting share issue

Placing
Shares 'placed' with target audience (institutions- pension funds, insurance funds)
Costs lower than offer for sale as reduced legal & publicity costs.
Risk lower as target audience pre-selected & initial soundings made
Size of issue will be smaller than IPO or Offer for Sale to public & spread of ownership smaller

Intermediaries Offer
Shares are offered to stockbrokers who in turn will offer them to their clients
Costs reduced as no requirement for underwriter
Similar to placing except stockbroker selects their preferred clients for share take-up.

Rights Issue
Shares are offered to existing shareholders in proportion to number of existing shares held –e.g. one for four issue – 1 extra share is offered for every existing four shares held
The existing shareholder has the pre-emptive right to the shares ahead of other shareholders.
Key consideration for the company is the TERP (Theoretical Ex Rights Price) as this will be the price of the shares being used as the offer price.
An existing shareholder has three possibilities – (a) exercise the right to take up all the shares at the share price (b) sell the right to another party or (c) do nothing

The wealth of the shareholder should be the same whether they exercise the right to buy the shares or sell the rights to another party

From company perspective right issue has several advantages – least cost as no requirement for underwriters & other allied costs (Accountant, legal, brokerage fees) these can be up to 10% of costs of share issue e.g. share issue of €20 million – costs of €2million avoided by using Rights Issue. Existing shareholding – less dilution of control
Lower spread of ownership - less risk

END OF PAPER