cpa IRELAND

MANAGERIAL FINANCE

PROFESSIONAL 1 EXAMINATION - AUGUST 2020

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, only the answer(s) to Part A for both 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 highlight text and write notes on the examination paper, however, you may not commence writing on the answer field until your Supervisor tells you to do so. Please read each Question carefully.

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

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.

THE INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS IN IRELAND

MANAGERIAL FINANCE

PROFESSIONAL 1 EXAMINATION – AUGUST 2020

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

1. **H Plc** is an electronics company that has a number of operating divisions including home alarm systems, electronic water treatment systems and electronic display units for retail customers. The EDU division is responsible for manufacturing and selling the electronic display units. The retail customers are DIY stores and building merchants. Turnover at the EDU division has been increasing steadily over the last five years with annual increases of 10% to over €400 million in the last financial year ended 31 December. The electronic display units are high-definition display screens that enable the shops to display their products inter-actively on the screens in store as the products are linked to the in-store website. H Plc has an opportunity through the EDU division to expand their product line with 5th generation electronic display units. The new units (to be called EDU 5) will use 5th generation communications technology to enable high definition television display units to be linked to the point of sale terminals in the stores. This will have several benefits for the retailers, among them being enhanced speed of display of in-store items, greater ease of use, and more effective processing of retail transactions with inter-linked inventory updates. Due to the pace of technological change, the company expects that the operation will have a life of five years from the time that the production of EDU 5 begins. The Financial Director of H Plc wants to ensure that the proposed investment in EDU 5 is financially viable before committing to it.

EDU 5 Proposal

The cost of the project will be €16 million and will entail building a small factory (€10 million) while spending the remainder on specialised equipment. Payments for the factory building will take place in two stages: the majority of the payment (90%) is payable immediately while the remaining 10% is payable in Year 1. All of the equipment will be purchased immediately. Additional working capital of €600,000 is required immediately to support production of the new EDU 5 product.

You have been provided with the following details relating to this project:

- The research and development division have spent €70,000 on market research and the directors of H Plc are encouraged by the findings.

  Sales Price is set at €800 per unit for Year 1 but will increase by 2.5% in the Year 2 and will remain at that level.

  Variable manufacturing costs per unit are as follows:

	€
Direct Materials	180
Direct Labour	100
Variable Overheads	70

- The direct materials cost per unit will increase by 10% in Year 1 and will remain at that level for the project duration.

- The direct labour cost per unit will increase by 10% in Year 1. It will increase by a further 10% in Year 2 and will remain at that level.

  The variable manufacturing overheads will increase by 10% in Year 1. They will be €85 per unit in Year 2 and stay constant after that.

  Variable selling and distribution costs will be €30 per unit and are expected to stay constant.

- Annual depreciation is to be charged on the factory building on a straight–line basis at 2% per annum.

- Annual Depreciation is to be charged on the specialised equipment on a straight-line basis at 20% per

annum.

- Annual fixed costs will be €1.6 million. This figure includes the annual depreciation relating to the fixed assets (building and specialised equipment) acquired for manufacture of the EDU 5 product.

- Sales in units for Year 1 are expected to be 16,000 with a 12 ½ % increase expected in Year 2 and a further 10% increase to be applied in Year 3. Sales will stay at the Year 3 level thereafter.

- All the equipment will be sold for €3 million at the end of the project.

- The building will be sold for €5 million at the end of the project.

- All sales are on credit and H Plc give their customers one month's credit.

- If the new EDU 5 product is not produced, some existing unskilled employees will be made redundant immediately at a cost of €120,000 to the company. If however, the new product is produced, these employees will be used to produce the new product and will be made redundant at the end of the project at a cost of €150,000 to the company.

- Production of EDU 5 will require the use of existing skilled employees. If the EDU 5 project does not proceed, these skilled employees would work on another project yielding a net contribution of €55,000 per month.

The company's cost of capital is 10% per annum. The company expects investments to deliver positive pre-tax Net Present Value over the life of the five-year project and a maximum payback period of three years. You may ignore taxation.

REQUIREMENT:

Prepare extracts from a report to the management of H Plc with the information presented in the following order:

(a) A Table showing the results of your calculations and initial recommendations based on (1) the 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.

(15 marks)

(b) Evaluate **five** non-financial factors that should be considered by the company in deciding whether or not to invest in the EDU 5 product.

(10 marks)

[Total: 25 Marks]

2. B Plc is a company that is in the food sector with a financial year-end of 31 December.

You have been supplied with the following relevant financing extracts so that the Weighted Average Cost of Capital (WACC) can be calculated:

	€m
7% Debentures Irredeemable (€100 each)	50.0
6% Preference Shares (€1 each)	2.5
Ordinary Shares (€1 each)	20.0
Bank Loan (10 Year)	30.0

Other relevant information:

- The Corporation Tax Rate is 12.5%.
- The market value of the Ordinary share is €3.50 per share.
- The market value of the Preference share is €1.06 per share.
- The expected dividend on the ordinary shares is €0.40 with a projected growth rate of 3%.
- The market value of the Debenture is €103 per Debenture.
- The Bank Loan has a fixed rate of 3.8%.

REQUIREMENT:

(a) Critically evaluate for B Plc the significance of the Weighted Average Cost of Capital concept for managerial finance.

(10 marks)

(b) Calculate the company's WACC using market weightings. (10 marks)

[Total: 20 Marks]

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

Part (A)

D Plc currently offers 30-day credit terms to its customers, but is considering changing the arrangement to have a 3% discount if the total is paid in 10 days and retain its current terms at 30 days for full payment if the discount is not availed of.

Under the new credit arrangement, the average collection period is expected to decrease to 25 days from the present 45 days. D Plc does not expect the new credit arrangement to have any impact on credit sales, which currently equal €6.2 million annually. The firm estimates that 65% of its customers will take advantage of the cash discount. D Plc requires a 13% return on its investment in receivables.

REQUIREMENT:

(i) Draft a report to the Directors of D Plc advising them on whether to enter into the proposed credit arrangement. Your report should include a table showing the results of your calculations.

(7 marks)

Include any detailed workings as an appendix to your report and;

(ii) Assess **four** factors that the company should consider when deciding on whether to extend credit to future customers.

(8 marks)

[Total: 15 Marks]

OR

Part (B)

There are numerous approaches to budgeting, with incremental based and zero-based budgeting being two of them.

REQUIREMENT:

Evaluate the differences between these two approaches to budgeting, comparing and contrasting the impact of each on the stages in the budgeting process and the relative advantages and disadvantages of both approaches to budgeting.

[Total: 15 Marks]

SECTION B

Answer Question 4 and <u>either</u> Part A <u>OR</u> 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.**

An investor is considering investing in two shares (X and Y). The expected return of each are as follows:

Economic Outlook	Probability	Return on Share X	Return on Share Y
Optimistic	0.2	22%	18%
Realistic	0.3	20%	16%
Stable	0.4	18%	14%
Pessimistic	0.1	4%	12%

REQUIREMENT:

1. The expected return on Share X is :

(a) 9%
(b) 18%
(c) 24%
(d) None of the above.

2. The Standard Deviation of Share X is approximately:

(a) 24.2%
(b) 18.1%
(c) 4.9%
(d) None of the above.

3. The Standard Deviation of Share Y is approximately:

(a) 4.4%
(b) 8.8%
(c) 2.1%
(d) None of the above.

4. With regard to inventory and operations management, which of the following statements is correct?

(i) One of the benefits of a Lean Manufacturing system is the use of a maximum amount of resources to produce goods.

(ii) A Just in Time (JIT) inventory policy means increased exposure to exogenous factors, price volatility, and to fluctuating demand arising from changes in the macro economic environment.

(iii) A JIT inventory policy that leads to reduced levels of closing inventory will decrease the working capital cycle of a firm.

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

5. The total cost of purchases for a product based on total annual demand is €448,000 at €160 per unit. The cost

per order is €12 and the annual holding cost is 10% of the purchase price. Based on this information, the Economic Order Quantity (rounded to the nearest unit) is:

(a) 58 units
(b) 65 units
(c) 74 units
(d) None of the above.

6. You have been provided with the summary analysis of the financial statements of J Plc as follows:

Cost of Sales	€200 million
Receivables	€24 million
Inventory	€46 million
Payables	€42 million
Mark-up	20%

Based on the information provided, the cash conversion cycle (rounded to the nearest day) is:

(a) 37 days
(b) 50 days
(c) 24 days
(d) None of the above.

7. A company manufactures a single product that it sells for €12 per unit. The product has a contribution to sales ratio of 30 per cent. The company's weekly break-even point is sales of €36,000.

What would be the profit in a week when 5,000 units are sold?

(a) €7,200
(b) €3,600
(c) €1,800
(d) None of the above.

8. Company Z is considering an investment project that has a life of five years and requires an initial investment of €600,000. Net cash inflows are estimated to be €174,000 per year. The project has a positive net present value of €59,634 when discounted at 10 per cent per annum. No tax is payable on projects of this type.

The maximum discount rate at which the project will be financially viable is (to the nearest 0.1 per cent) is:

(a) 13%
(b) 40%
(c) 20%
(a) None of the above.

[Total: 20 Marks]

5.

Answer either Part (A) OR Part (B)

Part (A)
You have been asked to investigate the performance of BG Limited. This company manufactures a single product: an exercise bicycle. The Operations Manager wishes to closely examine the results for a specific month.

The following standard cost card has been provided and you have ascertained that this information is based on 'ideal conditions'.

Standard Cost Card

Direct Material	10 units @ €4.00 per unit	€40.00
Direct Labour	2 hours @ €12 per hour	€24.00
Variable O/ Head	2 hours @€4 per hour	€8.00

The company operates a 'no inventory policy' and it has been reported that 1,800 bicycles were sold for €189,000 in the period ending 31 January.

According to the agreed financial plan for January 2020, the budgeted volume of sales was 2,000 bicycles, and the budgeted selling price was €100 per product unit.

A review of the actual results for the month of January reveals the following:

Direct Materials Used	19,500 Kilograms at total cost of €82,875
Direct Labour Used	3,800 hours at total cost of €39,900
Variable Overhead Costs	€15,475

REQUIREMENT:

Draft an email to the Operations Manager of BG Limited presenting the following information:

(i) An Operating Statement for January 2020 that reconciles the actual contribution and the budgeted contribution with the amounts and nature of the variances clearly identified. Workings should be shown on a separate page.

(13 marks)

(ii) A critical commentary on the results of your analysis for **four** of the variances identified. Your comments should include an indication of possible reasons for these variances.

(7 marks)

[Total: 20 Marks]

OR

Part (B)

"In recent years corporate dividend policy has become an important decision area in its own right. A large number of factors influence the dividend policy of a company" Watson and Head, (2016).

REQUIREMENT:

Discuss these factors referred to in the quote above along with the theoretical and practical implications of the various dividend policies that may be implemented by corporate financial managers.

[Total: 20 Marks]

END OF PAPER

SUGGESTED SOLUTIONS

THE INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS IN IRELAND

MANAGERIAL FINANCE

PROFESSIONAL 1 EXAMINATION – AUGUST 2020

SOLUTION 1

REPORT

TO: Management of H Plc
FROM: CPA Financial Consultant

RE: Proposed Investment in EDU 5 Product

This report presents the results of the investment appraisal of the proposed EDU 5 product using the NPV and Payback methods.

	Introduction of EDU 5 Product	Recommendation
Method		
NPV (in €000s)	€10.44 million (approx.)	Accept as positive NPV over life of 5 years
Payback	No Payback	If solely payback being applied as the Investment Evaluation method, reject proposal as outside the maximum payback period of three years.

<u>**Recommendation:**</u>

On financial criteria alone, we would recommend acceptance of this project, as there is a strong positive NPV of €10.44 million (approx.) despite the project being outside the maximum payback period of three years. NPV as a technique allows for the time value of money and the project risk is reflected in the use of the discount factor of 10% based on the cost of capital that is applied to the relevant cash flows. The NPV method is a valid method for the financial appraisal of projects. The payback method is a useful technique for identifying projects that will generate sufficient net cash flows within a specified time horizon. However, its use may not be appropriate here since it could take much longer than three years for the company to establish itself in a market involving 5th generation technologies.

Furthermore, non-financial criteria would need to be investigated further – examples of these are indicated later.

Q1- H Plc

Key Considerations (given in Question)	
Sales Units (Yr. 1)	16,000
Units- Sales Increase Factor (Yr. 1)	12.5%
Units- Sales Increase Factor (Yr. 2)	10%
Sales Price (Yr. 1)	€800
Sales Price Increase Factor	2.5%
Direct Materials Cost	€180
Direct Labour Cost	€100
Variable Manufacturing O/ Head Cost	€70
Direct Materials Cost Increase Factor	10%
Direct Labour Cost Increase Factor	10%
Variable Manufacturing O/Head Cost Increase Factor	10%
Variable Selling and Distn Costs	€30
Fixed Assets - Building Cost	€10,000,000
Fixed Assets - Equipment Cost	€6,000,000
Additional Working Capital (Inventory related) - Immediate	€600,000
Equipment Proceeds	€3,000,000
Building - Sale Value - Yr. 5	€5,000,000
Annual Fixed Costs (before Depreciation)	€1,600,000
Redundancy Saving	€120,000
Redundancy Payment (End of Project)	€150,000
Depreciation Factor - Factory Building	2%
Receivables Factor	1/12
Payment factor Building Upfront	90%
Payment Factor Building Yr. 1	10%
Skilled Employees - Contribution (monthly)	€55,000
Depreciation Factor - Equipment	20%

Sales Revenue		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	Sales Units	16,000	18,000	19,800	19,800	19,800
	Sales Price	€800	€820	€820	€820	€820
Cash Inflow		€12,800,000	€14,760,000	€16,236,000	€16,236,000	€16,236,000
Variable Mnfng Costs						
Materials		€180	€198	€198	€198	€198
Labour		€100	€110	€121	€121	€121
Other Variable Costs		€70	€77	€85	€85	€85
Total Var Mnfng Costs		€350	€385	€404	€404	€404
Cash Inflows						
Sales Revenue		€12,800,000	€14,760,000	€16,236,000	€16,236,000	€16,236,000
Cash Outflows						
Variable Mnfng Costs		€5,600,000	€6,930,000	€7,993,260	€7,993,260	€7,993,260
Variable Selling and Distn Costs		€480,000	€540,000	€594,000	€594,000	€594,000
Relevant Fixed Operating Costs	W1	€900,000	€900,000	€900,000	€900,000	€900,000
Total Cash Outflows		€6,980,000	€8,370,000	€9,487,260	€9,487,260	€9,487,260
Net Cash Flow		€5,820,000	€6,390,000	€6,748,740	€6,748,740	€6,748,740

W1 - Relevant Fixed Operating Costs

Fixed Operating Costs	€1,600,000
Less	
Depreciation Charge - Building	€100,000
Depreciation Charge - Equipment	€600,000
Relevant Fixed Operating Costs	€900,000

Net Present Value Calculation

	Year 0	Year 1 1st Yr of Operation	Year 2	Year 3	Year 4	Year 5
Building Cost	-€9,000,000	-€1,000,000				€5,000,000
Equipment Cost	-€6,000,000					€3,000,000
Additional Working Capital (Inventory related)	-€600,000					€600,000
Receivables Increase (Delayed Cash)	W2	-€1,066,666.67	-€163,333.33	-€123,000.00	€0.00	€1,353,000.00
Total Cash Outflows		-€6,980,000	-€8,370,000	-€9,487,260	-€9,487,260	-€9,487,260
Sales Revenue - Cash Inflows	€0	€12,800,000	€14,760,000	€16,236,000	€16,236,000	€16,236,000
UnskilledLabour - Redundancy	€120,000					-€150,000
Skilled Labour Opportunity Cost	W3	-€660,000	-€660,000	-€660,000	-€660,000	-€660,000
Net Cash Flow	-€15,480,000	€3,093,333	€5,566,667	€5,965,740	€6,088,740	€15,891,740
Discount Factor @ 10%	1.00	0.909	0.826	0.751	0.683	0.621
NPV	-€15,480,000	€2,811,840	€4,598,067	€4,480,271	€4,158,609	€9,868,771
						€10,437,557
						Accept

Payback — **No Payback within 3 Years as per H Plc requirement**

Receivables Delay - Cash Outflow	W2					
Yr1 €12.8 mil x 1/12		€1,066,666.67				
Yr2 €14.76 mil x 1/12 - €12.8 mil x 1/12			€163,333.33			
Yr3 €16.236 mil x 1/12 - €14.76 x 1/12				€123,000.00		
Yr4 €16.236 x 1/12 - €16.236 x 1/12					€0.00	
Yr5 €16.236 x 1/12						€1,353,000.00

Specialist Supervisors Opportunity Cost	W3
Monthly Contribution	€55,000
Annual Contribution	€660,000

Payback Calculation		Cumulative	
Net Cash Outflow Yr 0	-€15,480,000		
Cash Inflows Yr 1	€3,093,333	-€12,386,667	
Cash Inflows Yr 2	€5,566,667	-€6,820,000	
Cash Inflows Yr 3	€5,965,740	-€854,260	End Yr 3 criterion

No Payback within 3 Years as per H Plc requirement

Five Non-Financial Factors

1. Technology - 5th generation technology is emerging technology and has not yet penetrated the market. While H PLC may have the benefit of early mover advantage the risk attached to using this next generation technology that may be perceived as untried and untested by the market needs to be minimised by pilot –testing the new EDU 5 product with existing customers.

2. Effect on existing retail customers – The existing customers are DIY stores and building merchants – have these customers got the budgets to buy the new EDU 5 product or is there a more cost effective alternative being provided by H PLC of upgrading their existing system, possibly with a leasing alternative or a cloud based/ rental option. Have any customers signed contracts for the new EDU 5 product?

3. Reliability of supplier in sourcing and delivering the raw materials for the new EDU 5 product – are any of these new UK suppliers where there may be Brexit and/or currency implications?

4. Staff acceptance of the new product, particularly bearing in mind the effect on the unskilled employees and the skilled employees. – will additional training be required for the new equipment?

5. Depth of the product offering from H PLC and the effect upon related parties. The new units are to be linked to point of sale terminals. If these point of sale (POS) terminals are supplied by other parties – have these parties been consulted. This should be done so that there is clarification of responsibilities and expectations between these parties and H PLC.

6. Possible technological obsolescence of the new equipment and the 5th generation technology – there will be a need to keep abreast of product and process innovations over the five-year life cycle of the project.

These and other non-financial factors can be expanded upon further.

SOLUTION 2

B Plc is a company that is in the food sector with a financial year-end of 31 December.

(a) Explain to B Plc the significance of the Weighted Average Cost of Capital concept for managerial finance.

- A company's cost of capital is a combination of the interest rates payable on all its funding. It is usually calculated as a weighted average of the cost of all its debt and equity. The weights are the proportions of debt and equity in the company's financial structure. The Weighted Average cost of capital is an important value to the organisation and should be kept as low as possible.
- It can be used as the discount rate for future cash flows when applying NPV or if using IRR as the Investment Evaluation method can be used as the hurdle rate/cut off rate for comparing with the return generated from the project.
- It is a measure of the overall funding efficiency of the organisation as it allows a company to compare the efficiency of alternative sources of funding.
- It allows an organisation to see the balance between equity and debt funding.
- The lower the weighted average cost of capital the higher the value of the company.

(b) Calculate the company's WACC using market weightings

B Plc	
Share Capital Elements	
Dividend	€0.40
Share Price	€3.50
Growth Rate	3%
Preference Shares	
Dividend	6%
Share Price	€1.06
Bank Loan	
Interest Rate	3.8%
Bonds - Irredeemable	
Coupon Rate	7%
Market Price	€103.00
Tax Rate	12.50%
Market Values	
No of Ord Shares	20,000,000
No of Pref Shares	2,500,000

Cost							
Share Capital	Div (1 + g)/ Mkt Value + g		No of Ord Shares x Mkt Price		Mkt Value	Weighting	WACC
	0.40*(1 +.03)/3.50 + .03		20,0000,000 x €3.50		€ mil		
	0.117714	14.77%	20 x 3.5		70	45.41%	6.71%
Pref Shares	Div/ Share Price		No of Pref Shares x Mkt Price				
	6/106		2.5 x 1.06		2.65	1.72%	0.10%
	0.056604		5.66%				
Bonds - Irredeemable	Coupon/ Mkt Price		No of Bonds x Mkt Price/ Par Value				
	7/103		50 mil x 103/100		51.5	33.41%	1.99%
	0.067961	6.79%	Pre Tax				
After Tax	6.79 X 1- .125	5.95%	After Tax				
Bank Loan							
After Tax	Int Rate - Tax		Bank Loan		30.0	19.46%	0.65%
	3.8 x 1-.125	3.33%	After Tax	Total	154.15	100.00%	9.45%

SOLUTION 3

Part A

D Plc currently offers 30-day credit terms to its customers, but is considering changing the arrangement to have a 3% discount if the total is paid in 10 days and retain its current terms at 30 days for full payment if the discount is not availed of.

Under the new credit arrangement, the average collection period is expected to decrease to 25 days from the present 45 days. D PLC does not expect the new credit arrangement to have any impact on credit sales, which currently equal €6.2 million annually. The firm estimates that 65% of its customers will take advantage of the cash discount. D PLC requires a 13% return on its investment in receivables.

REQUIREMENT:

(i) Draft a report to the Directors of D PLC advising them on whether to enter into the proposed credit arrangement. Your report should include a table showing the results of your calculations.

Include any detailed workings on separate pages as an appendix to your report and

Q3- D Plc
Key Considerations (given in Question)

Credit Sales	€6,200,000
Collection Period - Current (days)	45
Collection Period - Proposed (days)	25
No of Annual Days	365
Return Required for investment Receivables	13%
Discount Offered (%)	3%
Customers Opting for discount	65%

Cost of Cash Discount		
Annual Credit Sales x % Opting for Discount x Discount Offered		
€6.2 mil x 65% x 3%		€120,900
Current Average Ac's Receivable		
Annual Credit Sales x days Credit		
€6.2 mil/365 x 45		€764,384
New Accounts Receivable		
Annual Credit Sales - Cash Discount		
€6,079,100.00	x new days credit	€416,377
Reduced Investment x Return required		
Current Av A/cs Rec - New Ac's Rec	x Return %	€45,241
Decision		**Reject**
Benefit of €45241 does not outweigh cost of €120,900		

(ii) A brief outline of the factors that the company should consider when deciding on whether to extend credit to future customers.

Ward refers to the 5 Cs of Credit in this area.

- Character
- Capacity
- Conditions
- Capital
- Collateral

These 5 C's are being used to refine the credit evaluation process of prospective customers

- Character is the most important attribute, because it pertains to the customer's willingness to pay its debts. Some customers who are capable of repaying their obligations choose not to do so. The best indicator of character is the customer's past credit history. Customers who have paid their bills promptly in the past are more likely to do so in the future.

- Yet, even well intentioned customers may be unable to repay their debts. The remaining Cs of credit reflect the creditor's ability to collect, assuming the customer is willing to pay up.

- Capacity represents the customer's ability to meet obligations. In the case of trade credit, the emphasis is on the customer's liquidity ratios and cash flow from operations. If the customer has trouble meeting credit obligations out of operating cash flow, then the focus will shift to the customer's overall financial condition, as represented by its capital. A company's financial position may be measured by profitability, activity and liquidity ratios including such ratios as debt-to-assets and times interest earned.

- Conditions refers to the impact of economic trends that may affect the credit applicant's ability to repay debts. For example, a strong company in a strong industry may still be unable to meet its obligations in the event of a deep recession.

- Finally, Collateral represents the assets that customers may be required to offer as security to obtain credit. The more valuable the collateral is, the lower the credit risk will be.

Students should discuss issues in giving credit to future customers under each of these five criteria.

Part B

- 'Incremental budgeting' is the term used to describe the process whereby a budget is prepared using a previous period's budget or actual performance as a base, with incremental amounts then being added for the new budget period.

- 'Zero-based budgeting', (abbreviated as ZBB) on the other hand, refers to a budgeting process which starts from a base of zero, with no reference being made to the prior period's budget or performance. Every department function is reviewed comprehensively, with all expenditure requiring approval, rather than just the incremental expenditure requiring approval.

- Zero-based budgeting involves three main stages:

  1. Activities are identified by managers. These activities are then described in what is called a 'decision package'. This decision package is prepared at the base level, representing the minimum level of service or support needed to achieve the organisation's objectives. Further incremental packages may then be prepared to reflect a higher level of service or support.

  2. Management will then rank all the packages in the order of decreasing benefits to the organisation. This will help management decide what to spend and where to spend it.

  3. The resources are then allocated based on order of priority up to the spending level.

- Incremental Budgeting is known for encouraging slack and wasteful spending as it encourages topping up last year's budget by a budget allowance or percentage factor. This percentage top up can be based on inflation (using CPI index), or some adjustments for changes in product mix or production level or pricing, without questioning each item of spending in the budget.

- The major disadvantage is that the current level of operations is taken as the base level and that the majority of expenditure that is associated with the base level remains unchanged.

- Slack and wasteful spending can occur as past inefficiencies and waste inherent in the current way of doing things is maintained.

- ZBB while questioning each item of expenditure from the ground up may not be possible or acceptable in some organisations or departments due to any of the following factors.

  - Departmental managers may not have the skills necessary to construct decision packages. They will need training for this and training takes time and money.
  - In a large organisation, the number of activities will be so large that the amount of paperwork generated from ZBB will be unmanageable.
  - Ranking the packages can be difficult, since many activities cannot be compared based on purely quantitative measures. Qualitative factors need to be incorporated but this is difficult.
  - The process of identifying decision packages, determining their purpose, costs and benefits is massively time consuming and therefore costly.
  - Since decisions are made at budget time, managers may feel unable to react to changes that occur during the year. This could have a detrimental effect on the business if it fails to react to emerging opportunities and threats.

- It could be argued that ZBB is more suitable for public sector than for private sector organisations. This is because, firstly, it is far easier to put activities into decision packages in organisations that undertake set definable activities. Local government, for example, have set activities including the provision of housing, schools and local transport. Secondly, it is far more suited to costs that are discretionary in nature or for support activities. Such costs can be found mostly in not for profit organisations or the public sector, or in the service department of commercial operations.

- Since ZBB requires all costs to be justified, it would seem inappropriate to use it for the entire budgeting process in a commercial organisation. Why take so much time and resources justifying costs that must be incurred in order to meet basic production needs? It makes no sense to use such a long-winded process for costs where no discretion can be exercised anyway.

- Incremental budgeting is, by its nature, quick and easy to do and easily understood. These factors should not be ignored.

  ZBB is more suited to public sector organisations, while incremental budgeting may be more suited for private sector contexts where managers of business functions will apply a top – up percentage based on last year's budget using a method that is perceived as quicker and easier to use where each item of expenditure does not have to be justified or questioned. Hence, commercial organisations will argue that incremental budgeting (as opposed to ZBB) is more cost – effective.

SOLUTION 4

Q1 B

Q2 C

Q3 C

Q4 C

Q5 B

Q6 D

Q7 A

Q8 A

1. The expected return on Share X is : 18 – (B)

Investor		**X**						
Share X	Prob	Returns X	**Expected Returns X**	**Mean Deviation X**	**Mean Dev Squared**	**Prob x Mean Dev Sqrd**	**Std Dev X**	
Optimistic	0.2	22	4.4	4	16	3.2		
Realistic	0.3	20	6	2	4	1.2		
Stable	0.4	18	7.2	0	0	0		
Pessimistic	0.1	4	0.4	-14	196	19.6		
			18			**24**	**4.898979**	
			1 (B)				**2 ©**	

2. The Standard Deviation of Share X is approximately: 4.9% (C)

3. The Standard Deviation of Share Y is approximately: 2.1% (C)

Share Y							
Returns Y	Prob	Exp Returns Y	Mean Deviation Y	Dev Sqrd	Prob * Mean Dev Sqrd	Std Dev Y	
18	0.2	3.6	4	16	3.2		
16	0.3	4.8	2	4	1.2		
14	0.4	5.6	0	0	0		
12	0.1	1.2					
		14			**4.4**	**2.097618**	
						3 ©	

4. With regard to inventory and operations management, which of the following statements is correct?

(i) One of the benefits of a Lean Manufacturing system is the use of a maximum amount of resources to produce goods.

(ii) A Just in Time (JIT) inventory policy means increased exposure to exogenous factors, price volatility, and to fluctuating demand arising from changes in the macro economic environment.

(iii) A JIT inventory policy that leads to reduced levels of closing inventory will decrease the working capital cycle of a firm.

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

Answer C as Statements (ii) and (iii) are correct

5. The total cost of purchases for a product based on total annual demand is €448,000 at €160 per unit. The cost per order is €12 and the annual holding cost is 10% of the purchase price. Based on this information, the Economic Order Quantity (rounded to the nearest unit) is:

Annual Demand	€448,000				
Purchase Price	€160				
		2800			
Order Cost	€12				
Holding Cost % of Purchase Price	10%				
		Sq RT	2 x D x O /H		
			€67,200		
			€16	4200	
		Sq RT		64.80741	
					65 units
					(B)

6. You have been provided with the summary analysis of the financial statements of J Limited as follows:

Cost of Sales	€200 million
Receivables	€24 million
Inventory	€46 million
Payables	€42 million

Based on the information provided, the cash conversion cycle (rounded to the nearest day) is:

(a) 37 days
(b) 50 days
(c) 24 days
(d) None of the above.

J Plc	MCQ 4.6						
		€ million					
Sales	120%	240					
Cost of Sales	100%	200					
Gross Profit	20%	40					
				Days			
Receivables		24		36.5			
Inventory		46		83.95			
Payables		42		76.65			
Cash Conversion Cycle				43.8			
					44 days		(D)
					(rounded up)		
	Ans	(D)	as none of the options provided are correct				

7. A company manufactures a single product that it sells for €12 per unit. The product has a contribution to sales ratio of 30 per cent. The company's weekly break-even point is sales of €36,000. What would be the profit in a week when 5,000 units are sold?

B/E Point (€)	€36,000	
Sales Price	€12	
B/E Point (Units)		3,000
Contribution/ Sales Ratio		30%
Contribution		€3.60
No of Required Units		5,000
Extra Units above B/ E		2,000
Profit Required		€7,200.00
Extra Units x Contribution		(A)

8. Company Z is considering an investment project that has a life of five years and requires an initial investment of €600 000. Net cash inflows are estimated to be €174,000 per year. The project has a positive net present value of €59,634 when discounted at 10 per cent per annum. No tax is payable on projects of this type.

The maximum discount rate at which the project will be financially viable is (to the nearest 0.1 per cent) is:

(a) 13%
(b) 40%
(c) 20%
(d) None of the above.

Company Z								
Initial Cash Outflow Yr 0	600,000							
NPV of Project	€59,634							
Disc Rate	10%							
Project Life (Yrs)	5							
Cash Inflows	174,000							
Annuity Factor for 5 Yrs	3.791							
Cash Inflows Calculated	€659,634							
€174,000 x 3.791								
Decision Criteria		€600,000/€174,000						
		3.448		13%	closest Annuity factor for Discount Rate			
				(A)				

SOLUTION 5

Part A

BG Limited
Standard Cost Card

Standard Quantities & Standard Costs	
Direct Materials - Standard Qty	10.00
Direct Materials - Standard Price	4.00
Direct Labour - Standard Qty	2.00
Direct Labour - Standard Price	12.00
Variable O/ Head - Standard Qty	2.00
Variable O/ Head - Standard Price	4.00

				Variances Favourable	Variances Adverse	Total
Sales Units	1,800					
Sales Price	100	Budgeted Contribution				
50,400						
Sales Revenue	180000					
		Variances				
Direct Materials	72,000	Sales Price	105-100 * 1,800	9,000		
Direct Labour	43,200	Sales Volume	1800-1800	0		
Variable /Head	14,400	Material Price	4.25- 4.00 *19,500		4,875	
Total Variable Costs	129,600	Material Usage	19,500 - (1,800 *10) * 4.00		6,000	
Budgeted Profit	**50,400**	Labour Rate	(10.50-12.00) * 3,800	5,700		
		Labour Efficiency	(3, 800 - (2 *1,800) * 12.00		2,400	
		Var Prodn O/Head				
		Efficiency Variance	3,800 *4 - (2*4*1,800)		800	
		Var O/Head				
		Spending Variance	15,475 - (3,800*4)		275	
				14,700	14,350	
		Actual Contribution				50,750
		Reconciled Difference				350

Reconciled by Variances

Favourable	Adverse	
14,700	14,350	350

Alternative View

		Base Reconciliation on Profit per Fixed Budget Vs Actual Profit	
Contribution per Fixed Budget	(Based on 2,000 Units)	56,000	
Actual Contribution	(Based on 1,800 Units)	50,750	
Difference		5,250	
Reconciled Difference needs to include Sales Volume Variance	2,000-1,800 * 28	5,600	Adverse
Difference per variances (excl Sales Volume variance)		350	Favourable
Reconciled		**5,250**	

A critical commentary on the results of your analysis for four of the variances identified. Your comments should include an indication of possible reasons for these variances.

- Material Price Variance is an adverse variance of €4,875. The Purchasing Manager paid €4.25 per unit of direct materials instead of the expected lower price of €4.00. This may have been because BG Limited had to negotiate with another supplier that charged the company more per item of raw materials. Alternatively, it may be that they were dealing with a foreign supplier that charged them a higher exchange rate than budgeted and this is reflected in higher material cost per item.

- Material Usage Variance is an Adverse Variance of €6,000. The company used more materials in quantity terms than they expected based on the standard quantities. This may be that sub-standard or inferior material was used during the month, possibly due to shortages in the market. This may be inter-connected with the adverse Material Price Variance – fewer suppliers reflecting higher cost prices and sub-standard material being supplied in a tightening market.

- Labour Efficiency Variance is an adverse variance of €2,400, as workers had to work more hours than expected with the inferior materials that were supplied.

- Labour Rate Variance is a Favourable variance of €5,700 as the company was able to use a lower grade of labour with the lower quality materials and pay these workers €10.50 an hour instead of the budgeted rate of €12 per hour.

Candidates can select other variances for their commentary e.g. Variable Overhead Efficiency Variance and/or Variable Overhead Expenditure Variance.

Note – the question states that the standard cost card was based on 'ideal conditions'. This permits students to indicate that the standard was targeted too high – this will be acceptable as an answer in one of the variances selected of the candidates choosing but it cannot be offered as the critique in all four of the variances selected.

OR

Part (B)

"*In recent years corporate dividend policy has become an important decision area in its own right. A large number of factors influence the dividend policy of a company*" Watson and Head, (2016).

REQUIREMENT:

Discuss these factors referred to in the quote above along with the theoretical and practical implications of the various dividend policies that may be implemented by corporate financial managers.

Factors

Many factors influence the dividend policy of a company. The primary ones (top 5) can be listed as

1. Legal Constraints
2. Liquidity and cash position
3. Investment Opportunities
4. Prior Commitments - Interest Payment Obligations and/ or Restrictive Covenants by existing lenders
5. Dividend Policy pursued

Legal Constraints – Dividends are distributions of profits and can only be paid out of accumulated net realised profits as laid out in the Companies Act 2014. If the net assets of a company fall below the total of its called up share capital and non-distributable reserves the company cannot pay a dividend.

Liquidity and cash position. Dividends are paid from cash. While a company may be profitable, it may not have sufficient cash to pay a dividend. A company needs also to consider the effect of a proposed dividend on their liquidity position.

Investment opportunities. The ultimate objective of managerial finance is long-term shareholder wealth maximisation and this can be achieved by identifying and appropriately evaluating investment opportunities. When companies are faced with possible attractive investment opportunities, there is pressure to reduce dividends. This is also influenced by the dividend policy that companies can pursue (discussed later in section on dividend policies and the residual theory of dividends).

Prior Commitments - Interest Payment Obligations and/ or Restrictive Covenants by existing lenders. Companies may have entered into agreements with existing lenders that restrict their flexibility in paying dividends, as banks will primarily be interested in repayment of interest as a prior charge ahead of dividend payments.

Dividend Policies – These policies can vary from

1. Policy of always pay a dividend irrespective of other considerations but mindful of the legal position that dividends can only be paid out of accumulated net realised net profits – argument by these proponents is that dividends increase the value of the company.
2. Policy of look at investment opportunities first and then when all worthwhile investment opportunities fully exhausted pay dividends (The residual theory argument)
3. Dividend Policy is relevant and needs to be considered because of the signalling effect (as advocated by Litner and Gordon) and the clientele effect of different tax positions attracting different clientele profiles (some shareholders preferring dividends rather than capital gains because of their tax position) . Ties in with the certainty of dividends rather than waiting for capital gains advantages that are less certain and at a more distant time (the bird in the hand argument)
4. The Dividend irrelevance argument from Modigliani and Miller where dividends do not affect company value as primarily investment opportunities are the main criterion and should shareholders require dividends they can generate homemade dividends by selling shares in Company A and switching to Company B that may be in a better position to pay dividends. M and M theory relies upon several assumptions that should be listed and further explained briefly by candidates.

Other factors that can be mentioned as supplementary factors or expansionist material in the answer can be any of the following

1. Finance – Availability and Cost
2. Transaction Costs
3. Control
4. Inflation
5. Tax Situation
6. Shareholder Expectations
7. Information Content
8. Perceived Risk

Marking Scheme

Factors – 1 mark for each of the top 5	5
5 further marks for cogency of argument and other factors in the discussion	5
Dividend Policies – 1 mark for each of the policies	4
6 further marks for relevance and clarity of theoretical and practical implications	6

END OF PAPER