The Institute of Chartered Accountants of Nigeria (ICAN)

PROFESSIONAL LEVEL EXAMINATION

2019

Mock Exam

(3 hours)

Strategic financial management

1. This paper consists of **SIX** written test questions of which you must answer **FOUR** questions in total.
   - Section A (40 marks) consists of **one compulsory** question
   - Section B (60 marks) consists of five 20-mark questions. You must **answer three questions only**.
2. Ensure your candidate details are on the front of your answer booklet.
3. Answer each question in black ballpoint pen only.
4. Answers to each question must begin on a new page and must be clearly numbered. Use both sides of the paper in your answer booklet.
5. The examiner will take account of the way in which answers are presented.

IMPORTANT

Question papers contain confidential information and must NOT be removed from the examination hall.

DO NOT OPEN THE QUESTION PAPER UNTIL INSTRUCTED

Enter your candidate number in this box

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Section A: 40 marks (compulsory)

Question 1

Ejide plc has two major operating divisions, manufacturing and property sales with revenues of ₦260 million and ₦620 million respectively.

Statement of financial position for Ejide plc	₦million
Land and buildings	80
Plant and machinery	140
Current assets	250
Current liabilities	180
	290
Ordinary shares (₦10 ords)	50
Reserves	130
Secured term loan	60
13% debenture(₦1,000 par)	50
	290

Summarised cash flow data for Ejide plc:

	₦million
Cash revenue	880
Divisional operating expenses	803
Central costs	8
Interest	11
Taxation	14
Dividends	15

The company's current share price ₦118.4 and the market value of a debenture is ₦1,301.

Projected real (i.e., excluding inflation) pre-tax financial data (₦m) of the two divisions are:

Manufacturing division						
Year	*1*	*2*	*3*	*4*	*5*	*6 onwards*
Operating net cash flows	45	48	50	52	57	60
Allocated central costs	4	4	4	4	4	4
Tax allowable depreciation	10	8	7	8	8	8
Property division						
Operating net cash flows	32	40	42	44	46	50
Allocated central costs	4	3	3	3	3	3
Tax allowable depreciation	5	5	5	5	5	5

Corporate taxation is at the rate of 30% per year, payable in the year that the relevant cash flow arises.

Inflation is expected to remain at approximately 3% per year.

The risk free rate is 5.5% and the market return 14%.

Ejide's equity beta is 1.15.

The company is considering a demerger whereby the two divisions are floated separately on the stock market. The debenture would be serviced by the property division and the term loan by the manufacturing division. The existing equity would be split evenly between the divisions, although new ordinary shares would be issued to replace existing shares.

Notes

(1) Allocated central costs reflect actual cash flows. If a demerger occurs these costs would rise to ₦6 million per year for each company.

(2) A demerger would involve a one-off after tax cost of ₦16 million in year one which would be split evenly between the two companies. There would be no other significant impact on expected cash flows.

(3) The current cost of the debenture and term loan are almost identical.

(4) The debenture was issued at par and will be redeemed at par in 15 years' time.

(5) The average equity beta in the manufacturing sector is 1.3 and the gearing level by market values is 70% equity and 30% debt.

(6) The average equity beta in the property sector is 0.9 and the gearing level by market values is 80% equity and 20% debt.

Required

(a) Calculate Ejide Plc's cost of debt. ***(3 marks)***

(b) Calculate an appropriate discount rate for use by each of the two divisions. ***(10 marks)***

(In any gearing estimates the manufacturing division may be assumed to comprise 55% of the market value of equity of Ejide plc, and the property sales division 45%).

(c) Using real cash flows, evaluate whether or not it is expected to be financially advantageous to the original shareholders of Ejide plc for the company to separately float the two divisions on the stock market.

State clearly any additional assumptions that you make. ***(12 marks)***

(d) Discuss what additional information and analysis would assist the decision process. ***(5 marks)***

One of the most important elements of any decision is the specification of goals or objectives which the decision maker seeks to achieve. The literature on capital budgeting, or investment appraisal, generally assumes the goal of a company is the maximisation of shareholder wealth.

Required

(e) Discuss the rationale for this assumption. Include in your discussion an explanation of alternative goals available to companies. ***(10 marks)***

(Total: 40 marks)

Section B: 60 marks – answer three out of five questions

Question 2

Ameobi plc is a company that is quoted on the Nigerian stock exchange. It is considering undertaking a capital investment in South Africa to manufacture agricultural fertilizers.

The project would require immediate capital expenditure of R15m, plus R5m of working capital which would be recovered at the end of the project's four year life. It is estimated that annual revenue of R18m would be generated by the project, with annual operating costs of R5m. Straight-line depreciation over the life of the project is an allowable expense against company tax in South Africa which is charged at a rate of 50%, payable at each year-end without delay. The project can be assumed to have a zero scrap value.

Ameobi plans to finance the project in part with a ₦150m 4-year loan at 10% from the Nigerian Central Bank. Issue costs on the loan will be 2½% and are tax deductible. The proposed financing scheme reflects the belief that the project would have a debt capacity of two-thirds of capital cost.

The Nigerian fertilizer industry has an equity beta of 1.40 and an average debt: equity gearing ratio of 1:4. Debt capital can be assumed to be virtually risk-free. The current return on Nigerian government stock is 9% and the excess market return is 9.17%.

Corporate tax in Nigeria is at 30% and can be assumed to be payable at each year-end without delay. Because of a double-taxation agreement, Ameobi will not have to pay any Nigerian tax on the project. The company is expected to have a substantial Nigerian tax liability from other operations for the foreseeable future.

The current spot rate is ₦15/R1. The naira is expected to strengthen against the rand by an annual rate of 10%.

Required

(a) Using the adjusted present value technique, advise the management of Ameobi on the project's desirability. ***(12 marks)***

(b) Comment briefly on the company's intended financing plans for the South African project. Suggest, with reasons, a sensible alternative. ***(3 marks)***

(c) Explain the significance of the existence of real options to the capital investment decision, and briefly mention examples of real options that might be significant in the fertilizer factory decision process. ***(5 marks)***

(Total: 20 marks)

Question 3

Ambrose plc is a manufacturer of car care products. It carries insignificant amounts of inventory. Revenue and profits after tax for last year are ₦145 million and ₦40 million respectively.

Ambrose plc's shares are currently quoted at ₦440, the lowest price for five years. The directors believe that this is because the company is not growing as fast as the market expects. They believe that the fastest way to grow, and as a result improve the share price performance, is to acquire another company in a similar line of business with a lower P/E ratio. They are therefore evaluating Essien plc on the basis that its earnings can be 'bootstrapped' ie, on the assumption that, once the merger has been completed, the combined company's P/E ratio will be the same as Ambrose plc's current ratio.

Essien plc's results for the past three years and its directors' own estimate for this year are as follows:

Year to 31 December	*Revenue*	*Profit after tax*
	₦ million	₦ million
20X0 actual	95	12.1
20X1 actual	100	12.5
20X2 actual	106	13.5
20X3 estimate	120	14.0

Essien plc's dividend payout ratio has been maintained at 50% for the past eight years. The company pays only one dividend per year at the end of December. Its shares are currently being traded at ₦126.

Summary statements of financial position at 31 December 20X2 for the two companies are as follows:

	Ambrose plc	*Essien plc*
	₦ million	₦ million
Non-current assets (net of depreciation)	60.0	75.0
Net current assets	30.0	25.0
Total assets less current liabilities	90.0	100.0
Capital and reserves		
Called up share capital	25.0 **Note 1**	50.0 **Note 2**
Reserves	65.0	50.0
	90.0	100.0

Notes

(1) 1 million ordinary shares of ₦25.

(2) 1 million ordinary shares of ₦50.

If the merger goes ahead, one of Essien plc's properties will not be needed following the merger and will be sold at the end of the first year of operations. The estimated sales receipt from this asset at the time of sale is ₦25 million, which will also be the written-down book value at that time. No other savings or synergies have been identified by the directors of Ambrose plc at this stage.

Ambrose plc's financial advisors believe that its directors are over-valuing Essien plc's future earnings post-tax. They advise that, in their opinion, the merged company should be more prudently valued and suggest that Essien plc's growth for the foreseeable future is likely to be maintained at no more than the average of the last four years.

The cost of capital for Ambrose plc is 14% and for Essien plc is 12%.

Required

(a) Estimate the maximum price, in total and per share, that Ambrose plc might bid for the whole of the share capital in Essien plc under both of the following assumptions:

(i) the directors of Ambrose plc are correct,

(ii) the financial advisors are correct,

and comment briefly on the weaknesses of the methods of valuation you have used; ***(9 marks)***

(b) Advise the directors of Ambrose plc on an initial bid price and a maximum price which they should offer for the shares of Essien plc; ***(6 marks)***

(c) Explain, giving examples, the meaning of due diligence. ***(5 marks)***

(Total: 20 marks)

Question 4

The board of directors of Nwofor Ltd is considering two investments, each of which is expected to have a life of five years. The company does not have either the physical capacity or the funds to undertake both investments. Forecast profits and other financial data for the two investments are:

Investment 1

Year	*0*	*1*	*2*	*3*	*4*	*5*
	₦'000	*₦'000*	*₦'000*	*₦'000*	*₦'000*	*₦'000*
Non-current assets	(500)					
Working capital	(50)					
Forecast sales		370	500	510	515	475
Forecast costs		300	325	335	330	325
Finance charges		15	15	15	15	15
Depreciation		100	100	100	100	100
Profit before tax		– 45	60	60	70	35

Investment 2

Year	*0*	*1*	*2*	*3*	*4*	*5*
	₦'000	*₦'000*	*₦'000*	*₦'000*	*₦'000*	*₦'000*
Non-current assets	(450)					
Working capital	(50)					
Forecast sales		420	510	575	550	510
Forecast costs		310	385	420	400	350
Finance charges		15	15	15	15	15
Depreciation		80	80	80	80	80
Profit before tax		15	30	60	55	65

Additional information:

- The company pays tax at 30%. Writing down allowances are available on the initial investment in both projects at 25% per year. Tax is payable/receivable one year in arrears.
- The data is in real terms, ie it contains no increases for inflation. This has been ignored on the grounds that both sales and costs are expected to increase by 5% per year.
- The company's nominal cost of capital is 12% per year. Its target accounting rate of return (average profit before tax as a percentage of average investment) is 25%.
- All cash flows may be assumed to occur at the end of the year except the initial capital cost and working capital.
- For each project the value of working capital expected to be released back to the project's cash flows at the end of year 5 is ₦50,000 nominal. There will be no other terminal value of the investment.
- The ₦50,000 left over if investment 2 is chosen (ie the difference between the initial investment of ₦550,000 in Investment 1 and ₦500,000 in Investment 2) could be invested in the money market at between 6% and 7%.

Required

Assume you are the financial manager with Nwofor Ltd. Recommend to the board which investment, if either, should be selected using whatever methods of evaluation you think appropriate. Include in your report a discussion of the various methods of evaluation and any non-financial factors which might be relevant to the decision.

Note: Your cash flows should be presented in *nominal* (as opposed to *real*) terms.

(20 marks)

Question 5

A colleague has been taken ill. Your managing director has asked you to take over from the colleague and to provide urgently-needed estimates of the discount rate to be used in appraising a large new capital investment. You have been given your colleague's working notes, which you believe to be numerically accurate.

Working notes: Estimates for the next five years (annual averages)

Stock market total return on equity	16%
Own company dividend yield	7%
Own company share price rise	14%
Standard deviation of total stock market return on equity	10%
Systematic risk of own company return on equity	14%
Growth rate of own company earnings	12%
Growth rate of own company dividends	11%
Growth rate of own company sales	13%
Treasury bill yield	12%

The company's gearing level (by market values) is 1 : 2 debt to equity, and after-tax earnings available to ordinary shareholders in the most recent year were ₦54,000,000, of which ₦21,400,000 was distributed as ordinary dividends.

The company has 1 million issued ordinary shares which are currently trading on the Stock Exchange at 321 pence. Corporate debt may be assumed to be risk-free. The company pays tax at 30% and personal taxation may be ignored.

Required

(a) Estimate the company's weighted average cost of capital using:

(i) the dividend valuation model;

(ii) the capital asset pricing model.

State clearly any assumptions that you make.

Under what circumstances would these models be expected to produce similar values for the weighted average cost of capital? ***(12 marks)***

(b) You are now informed that the proposed investment is a major diversification into a new industry, and are provided with the following information about the new industry:

Average industry gearing level (by market value)	1 : 3 debt to equity
Average pay-out ratio	55%
Average beta coefficient (β equity)	1.50

Using any relevant information from parts (a) and (b), prepare a brief report recommending which discount rate should be used for the investment. Any relevant calculations not included in your answer to part (a) should form part of your report. ***(8 marks)***

(Total: 20 marks)

Question 6

Iwobi plc is a company with diversified, international interests.

The company wishes to borrow at ₦10 million for a period of three years. The company's credit rating is good and current market data suggests that it could borrow a fixed rate of interest at 8% per annum or at a floating rate of NIBOR + 0.25 per annum. The company believes that interest rates are likely to fall over the next three years, and favours borrowing at a floating rate.

The company's bankers are currently working on raising a three-year loan for another of their customers, Kanu Ltd. This company is smaller and less well known than Iwobi plc, and its credit rating is not as high. Kanu Ltd could borrow at a fixed rate of 8.5% per annum or a floating rate of NIBOR + 0.5%. Kanu Ltd has indicated to the bank that it would prefer a fixed-rate loan. The bankers have suggested that Iwobi Plc engage in a swap which might benefit both companies.

Assume that interest is paid at the end of each twelve-month period of the loan's duration and that the principal is repaid on maturity (i.e. at the end of three years).

Required:

(a) Explain the meaning and use of financial derivatives, in general terms, and the advantages and disadvantages of their use for companies such as Iwobi plc; ***(4 marks)***

(b) Describe the characteristics and benefits of interest-rate swaps compared with other forms of interest-rate-risk management, such as forward-rate agreements and interest-rate futures; ***(6 marks)***

(c) Explain how the swap being considered with Kanu Ltd might be constructed if the benefit is to be shared equally between te two companies and comment on the financial benefits to be gained from the operation. ***(10 marks)***

(Total: 20 marks)

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