

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF THE BUILT ENVIRONMENT
DEPARTMENT OF QUANTITY SURVEYING
BACHELOR OF QUANTITY SURVEYING (HONOURS) DEGREE
PART IV SECOND SEMESTER EXAMINATIONS – AUGUST 2009**

CONSTRUCTION FINANCE – AQS4203

Instructions to candidates

Question paper contains a total of 6 questions.

Each question carries a total of 25 Marks

Answer any 4 questions

Question 1

Advance P/L is considering investing in two mutually exclusive projects, X and Y, both with lives of 6 years. The two projects have the same risk characteristics as the company's current projects and therefore the Finance Manager has resolved that no adjustment for project specific risk will be necessary and that the company's WACC is the appropriate discount rate to use for capital budgeting purposes. You are supplied with the following data on Advance P/L and projects X and Y.

Advance P/L and Market Data

Beta- (β)	1.2
Risk-free rate (R_f)	5%
Expected market return (R_m)	15%
Required return on Advance debt (K_d)	8%
Advance P/L marginal corporate tax rate (T)	30%
Advance P/L Target Capital Structure- Debt: Equity Ratio	40:60

Project Cash Flow Details

	Initial Outlay	Year 1 C/Flow	Year 2 C/Flow	Year 3 C/Flow	Year 4 C/Flow	Year 5 C/Flow	Year 6 C/Flow
Project X	-6m	+0.5m	+2m	+2.3m	+3.5m	+3m	+2.1m
Project Y	-6m	+1m	+1.2m	+2m	+3.1m	+4.3m	+3.5m

You are further advised that all new equity will be raised internally (retained earnings) and therefore the company will not incur any flotation costs in relation to new equity. Flotation costs for debt issues are negligible and therefore are disregarded in the calculation of the cost of debt.

Required:

Using the above data;

- a. Calculate Advance P/L's WACC. (3 marks)
- b. Calculate the **Discounted Payback Period**, **NPV**, and **MIRR** for projects **X and Y**. (20 marks)
- c. Based on the calculations in (b) above, and your knowledge of Corporate Finance Theory, make a recommendation to Advance P/L on which of the two projects to undertake. Support your decision. (2 marks)

Question 2

- a) What types of actions can managers take to maximize a firm's stock price? (6 marks)
- b) Distinguish between the following types of markets:
 - i) Primary market and secondary market (4 marks)
 - ii) Money market and capital market (4 marks)

- c) Explain why an investor would prefer buying shares in a company listed on the Zimbabwe Stock Exchange to those of a private limited company (a company whose shares are closely held and cannot be sold to the general public)? (5 marks)
- d) Explain how each of the following affects the rate of return required by investors on their investments:
- i). Expected Inflation (3 marks)
 - ii). Risk (3 marks)

Question 3

- a) Ewald Company's current stock price is \$36, and its last dividend was \$2.40. If dividends are expected to grow at a constant rate of 5% in the future, what is Ewald's component cost of equity? (5 marks)
- b) The Modified Internal Rate of Return (MIRR) incorporates a better reinvestment rate assumption than the Internal Rate of Return (IRR). Discuss. (5 marks)
- c) With the aid of relevant examples from the construction industry, explain what is meant by the following:
- i). Incremental Project Cash Flows (3 marks)
 - ii). Opportunity costs (3 marks)
 - iii). Externalities (3 marks)
 - iv). Sunk costs (3 marks)
- d) Explain why the NPV method is the most recommended investment appraisal technique in Finance Theory. (3 marks)

Question 4

- a) ABC Ltd has a target capital structure of 40% debt and 60% equity. Currently, the company is financed by \$30 million debt and \$70 million equity. The company wishes to raise \$40 million in additional capital to fund new projects. The management of ABC consider ABC shares as currently undervalued. They have therefore resolved to raise the whole \$40 million required this year as debt and then fund planned capital expenditure of \$35 million for next year via a new equity issue. This would correct the company's capital structure to the target level. You are given

that ABC's marginal corporate tax rate is 30%, the required rate of return on ABC's bonds (k_d) is 10%, and the cost of new equity (k_e) is 15%.

- i). Calculate ABC's cost of capital for project appraisal purposes. (5 marks)
 - ii). Suppose this year's projects have an IRR of 9%, and next year's projects have an IRR of 13%. Based on the cost of capital calculated in (a) above, recommend to ABC management whether to proceed with the planned investments. Support your recommendation. (5 marks)
- b) Management are interested in the profitability, risk, and liquidity of the investments/projects undertaken by the company. In view of the preceding statement, discuss the extent to which the following project appraisal techniques measure the above three project attributes.
- i). Discounted Payback Period (DPP) (4 marks)
 - ii). Internal Rate of Return (IRR) (3 marks)
 - iii). Net Present Value (NPV) (3 marks)
- c) Briefly discuss the effect that unexpected delays in project completion may have on project cash flows and profitability. (5 marks)

Question 5

- a) Discuss any three sources of short-term project finance. (6 marks)
- b) Evaluate the following strategies for meeting short-term project financing needs:
 - i). Maturity Matching Strategy (3 marks)
 - ii). Conservative Strategy (3 marks)
- c) Define the cash conversion cycle and briefly explain each of the three components of the cycle. (7 marks)
- d) Discuss three strategies that a business can employ in order to shorten its cash conversion cycle. (3 marks)
- e) Evaluate the risks associated with using short-term financing to meet long-term funding needs. (3 marks)

Question 6

- a) You have been requested by the Board of TechnoConsult P/L to assess the economic viability of the use of two mutually exclusive brands of cement for construction of a block of offices for commercial purposes. Brand B is stronger and therefore is more expensive than brand A. You determine that if brand A is used, the building will be expected to have a life of 10 years as it would then not meet minimum mechanical standards required by the local authorities. You also estimate that if brand B is used, the life of the building will be 13 years. You further ascertain that the NPVs associated with the use of brands A and B are \$3.5 million and \$4 million respectively when discounted at a rate of 10%.

Required

Using the **equivalent annuity method**, recommend which of the two brands should be accepted. (8 marks)

- b) With particular reference to the Zimbabwean construction industry, evaluate the risks associated with the use of debt for project financing. (5 marks)
- c) Distinguish between an operating lease and a capital/finance lease. (6 marks)
- d) Briefly explain the benefits that a construction company may enjoy by using leasing as a source of financing. (6 marks)

END OF EXAMINATION