



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

MAY – JULY 2015 TRIMESTER

FACULTY OF COMMERCE

DEPARTMENT OF ACCOUNTING AND FINANCE

REGULAR PROGRAMME

CFI 311: CORPORATE FINANCE

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Date: JULY 2015

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and ANY OTHER TWO Questions

- Q1. a) A firm is considering a new project with the following cashflows and certainty equivalent coefficients (CEC)

Year	0	1	2	3	4	5
C.E.C.	1	0.85	0.7	0.6	0.4	0.2
Cashflow	(Sh. 40,000)	Sh. 10,000	Sh. 20,000	Sh. 15,000	Sh. 10,000	Sh. 4,000

The above cash inflows are risky. The firm normally adjusts for risk using the certainty Equivalent method. The risk adjusted discount rate is 10% while the return on government security is 9%.

- i) Calculate the NPV of this project? ^{10, 117.5} (9 marks)
- ii) Should the project be accepted? Explain your answer. ^{no, better} (2 marks)
- b) A firm has 6m ordinary shares currently selling at Sh. 10 each. It also has debt amounting to Sh. 40m. the corporate tax rate is 30%. The firm pays interest on the debt at a rate of 10% before tax. Equity investors require a return of 20%.

- Required: $w = \frac{k_d(2) + k_d(10)}{0.20(2) + 0.10(10)} = 16\%$
- (i) Calculate the overall cost of capital. (8 marks)
- (ii) Calculate the effective cost of debt. (3 marks)
- c) Explain the following terms
- (i) Optimal capital structure (2 marks)
- (ii) Agency problem (2 marks)
- (iii) Capital markets (2 marks)
- (iv) Private placement of shares (2 marks)

Q2/ You work in the investor relations department of Bella Ltd. You are required to respond to a letter from Tracy, a shareholder who owns 20% of the shares of Bella Ltd. Tracy wants to know if Bella Ltd will pay any dividends next year. Although, you don't have information on the amount of dividends to be paid next year., you know the following regarding Bella Ltd.

- 1) The firm has 10m shares outstanding.
- 2) The firm's capital structure is made up of 80% equity and 20% debt.
- 3) The amount of net income expected next year is 30m.

Required

- a) Calculate the maximum funds available if the capital structure is to be maintained. 31.5 (5 marks)
- b) If the capital budget for next year is Sh. 25m, will Bella pay any dividend? If yes, calculate the dividend per share. $1 \text{ m} = 16 \text{ per share}$ (6 marks)
- c) What is the dividend payout Ratio in (b) above? $1:3$ (2 marks)
- d) How much dividends will Tracy receive? $2 \text{ m or } 200,000$ (2 marks)
- e) How much will Bella Ltd need to borrow to finance next year's capital budget? 5 m (2 marks)
- f) If the net income expected instead was sh. 40m, what options would the company have, so as not to cut dividends in the short term. $40 - (20) = 20 \text{ m}$ (3 marks)

- Q3. A firm wants to buy a new machine to replace an existing one. The old machine has a book value of sh. 600,000 today and a remaining life of 4 years. The salvage value of the old machine at the end of the remaining life is zero. This machine can be sold at sh. 350,000 today.

The new machine can be bought at sh. 1,180,000 today and will have a salvage value of sh. 150,000 at the end of its 4-year life. Set-up cost related to this machine amount to sh. 170,000.

Initial investment in current assets amount to sh. 380,000 while current liabilities amount to sh. 330,000 today.


The company uses straight-line depreciation method. The Corporate Income tax rate is 30% while capital gains or losses are charged at 25%. The cost of capital is 10%

Required:

- (i) Calculate the initial investment outlay. $937,500$ $RADR = \text{Risk Free Rate} + \text{Prem}$
 $0.10 = 0.08 + x$
 $x = 0.02$
 $x = 2\%$ (9 marks)
- (ii) If the risk free rate on the above project is 8% while the risk adjustment discount rate is 10%, what is the Risk Premium associated with this project. (3 marks)
- (b) (i) Firm x has shares currently selling at sh. 60 in the stock market while those of firm z are selling at sh. 150 each. If firm x acquires z through a stock acquisition, calculate the exchange ratio. $\frac{x}{z} = \frac{60}{150} = 0.4$ (4 marks)
- (ii) If Firm z has 18m shares outstanding, how many shares in total will firm x need to issue to acquire z. $2.5 \times 18 = 45m$ shares. (4 marks)
- Q4. TLC Ltd intends to raise sh. 300m and it has engaged an investment bank to handle this transaction. TLC has the option of either selling bonds or shares, through a firm commitment arrangement.
- a) With the shares option, each share will be sold at sh. 15.70 to the public while TLC Ltd will receive sh. 15 per share.
- i) How many shares will TLC need to sell. $\frac{300,000,000}{15} = 20,000,000$ shares. (4 marks)
- ii) Calculate the % underwriting spread per share. $\frac{15.70 - 15}{15.70} \times 100 = 4.46\%$ (3 marks)
- b) With the bonds option, a total of 300,000 bonds will be sold at sh. 1020 per bond. TLC will be paid sh. 1000 by the investment bank.

$$k_c = r = k_d$$

$$k_c = k_d + (k_c - k_d) \frac{D}{E}$$

- i) Calculate the % underwriting spread. *1020 - 1000 = 20* *20 / 1000 = 2%* (3 marks)
- ii) Assuming the entire issue is sold, calculate the total fees to the investment bank. *1020 - 1000 = 20* *20 x 100,000 = 2,000,000* *2,000,000 / 100,000 = 20* (3 marks)
- iii) If the investment bank is able to sell only 260,000 bonds, calculate the total fees to the investment bank.. *260,000 x 20 = 5,200,000* *5,200,000 / 100,000 = 52* (3 marks)
- ME*  c) Which alternative is better for TLC Ltd. Explain the reason for your answer. (4 marks)

Present value factors.

- i For a single amount = $(1 + r)^{-n}$
- ii For an annuity = $\frac{1 - (1 + r)^{-n}}{r}$

END