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04/02/2020

KENYATTA UNIVERSITY

DEPARTMENT OF APLLIED ECONOMICS

SEM 2 2019/20 EXAM

ANSWER ALL THE QUESTIONS

EAE 817 CORPORATE FINANCE AND INVESTMENT II

Q1

a) What is meant by financial distress? (1 mark)
b) Identify three forms of costs associated with financial stress. (3 marks)

Combine into one question

c) What is meant by direct cost of bankruptcy? (1 mark)
d) What is meant by the indirect coat of bankruptcy (1 mark)

Combine

e) What is meant by technical insolvency?(1 mark)
f) How does the possibility of technical insolvency affect capital structure? (2 marks)
g) Explain briefly the relationship between financial distress and capital structure (3 marks)

Combine (g) with (a)&(b)

h) State the Modigliani-Miller theorem of capital structure and use it explain the implications of changes in the firm's capital structure for shareholders' wealth (7 marks)
i) What is the main difference between weighted average cost of capital (WACC) and the adjusted present value (APV) methods (5 marks)

Q2 Suppose that XYZ Corporation

- Operates in a perfect capital market,
- Faces a 40% corporate tax, and
- Has a current asset value of $1,000

Management expects operating earnings (ie earnings before interest and taxes) of $200 in the coming year.

a) Calculate the total expected income available to the suppliers of capital for the following three capital structures

(i) 1: 100% equity (3 marks)

(ii) 2: 70% equity and 30% debt with an annual interest of 10% (3 marks)

(iii) 3: 30% equity and 70% debt with annual interest of 10% (3 marks)

b) What's the optimal capital structure for this company? Assume that the annual interest of 10% applied to any amount of debt. (3 marks)

c) If an individual income tax is introduced into this market and income tax on bond interest is much higher than that on dividends, how will the optimal capital structure of this company be affected and why? (3 marks)

Q3 Suppose the market price of corporation ABC's stock is $30 per share and that there are 40,000 shares outstanding. Suppose the company's management is considering a preemptive rights offering in connection with the issuance of 10,000 shares. Each current shareholder would receive one right for every four shares owned. The terms of the rights offering are as follows: For four rights and $25 (the subscription price) a new share can be acquired.

a) What is a preemptive right? (3 marks)
b) What is the value per right? (3 marks)
c) Often a right offering is designed to have a relatively high value per right. What is the firm's consideration behind it? (3 marks)

Q4 a) What are derivatives? (1 mark)

b) A one year futures contract on a non-dividend-paying stock is entered into when the cash price for the stock is $30 and the risk-free interest rate is 10%.

i) What is the futures price today and what is the value of this futures contract? (3 marks)

ii) Six month later, the stock price rises to $35 and the risk-free interest rate moves to 8%. What is the futures price and what is the value of this futures contract at that time? (3 marks)

c) A call option expires in 3 month and has a strike price X = $40. The underlying stock is worth $41 today. In 3 months the stock may increase by $7 or decrease by $6. The risk-free rate is 2% per year. Use the binomial option-pricing model to value the call option

(3 marks)

d) Assume the following information for a stock and a call option written on the stock

Stock price (ps)	$ 52

Strike price (pe)	$50
Time to expiration (T)	0.25 (three months)
Standard deviation (σ)	0.2
Risk-free interest rate (r)	0.10

Required

a) Use the Black-Scholes model to determine the value of the call option. (please use the cumulative normal distribution tables provided) (3 marks)