Strathmore
UNIVERSITY

STRATHMORE INSTITUTE OF MATHEMATICAL SCIENCES
END OF SEMESTER EXAMINATION
BSF 1204 – CORPORATE FINANCE

DATE: Thursday 4th March 2019 Time: 2 Hours

Instructions

1. This examination consists of **FIVE** questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.

QUESTION ONE [30 Marks]

a) Discuss the different mechanisms that the shareholders normally use to solve for the potential conflict of interests that arise between them and the management (5 marks)

b) Discuss the role of financial intermediaries in providing short-term finance for use by business organizations (5 Marks)

c) Redwine Co. has set a minimum cash account balance of $7,500. The average cost to the company of making deposits or selling investments is $18 per transaction and the standard deviation of its cash flows was $1,000 per day during the last year. The average interest rate on investments is 5.11% per annum

Required:

i. Determine the spread, the upper limit and the return point for the cash account of Redwine Co using the Miller-Orr model. (3 Marks)

ii. Explain the relevance of these values for the cash management of the company. (2 Marks)

d) Tanga Tanga Co sells both Product Poru and Product Qiaku with sales of both products occurring evenly throughout the year.

Product Poru;

The annual demand for Product Poru is 300,000 units and an order for new inventory is placed each month. Each order costs $267 to place. The cost of holding Product P in inventory is 10 cents per unit per year. Buffer inventory equal to 40% of one month's sales is maintained.

Product Qiaku

The annual demand for Product Qiaku is 456,000 units per year and Tanga Tanga Co buys in this product at $1 per unit on 60 days' credit. The supplier has offered an early settlement discount of 1% for settlement of invoices within 30 days.

Other information Tanga Tanga Co finances working capital with short-term finance costing 5% per year. Assume that there are 365 days in each year.

Required:

Calculate the following values for Product Poru :

i. The total cost of the current ordering policy; (3 marks)

ii. The total cost of an ordering policy using the economic order quantity; (3 marks)

iii. The net cost or saving of introducing an ordering policy using the economic order quantity. (1 mark)

iv. Calculate the net value in dollars to Plot Co of accepting the early settlement discount for Product Qiaku. (5 marks)

v. Identify and discuss the objectives of working capital management (3 marks)

QUESTION TWO [20 marks]

a) Divine Co has a dividend payout ratio of 40% and has maintained this payout ratio for several years. The current dividend per share of the company is 50cents per share and it expects that its next dividend per share, payable in one year's time, will be 52cents per share.

The capital structure of the company is as follows:

	$m	$m
Equity		
Ordinary shares (par value $1 per share)	25	
Reserves	35	
	——	60
Debt		
Bond A (par value $100)	20	
Bond B (par value $100)	10	
	——	30
		——
		90
		——

Bond A will be redeemed at par in ten years' time and pays annual interest of 9%. The current ex interest market price of the bond is $95·08. Bond B will be redeemed at par in four years' time and pays annual interest of 8%. The cost of debt of this bond is 7·82% per year. The current ex interest market price of the bond is $102·01. Divine Co has an equity beta of 1·2. The risk-free rate of return is 4% per year and the average return on the market of 11% per year. Ignore taxation.

Required:

I. Calculate the cost of debt of Bond A. [4 marks]

II. Calculate the following values for Divine Co:

a. cost of equity, using the capital asset pricing model [2 marks]

b. ex-dividend share price, using the dividend growth model [3 marks]

c. capital gearing (debt divided by debt plus equity) using market values [2 marks]

d. market value weighted average cost of capital. [3 Marks]

b) Discuss the three (3) motives of holding cash in a business (6 Marks)

QUESTION THREE [20 Marks]

a) Cab Co owns and runs 350 taxis and had sales of $10 million in the last year. Cab Co is considering introducing a new computerized taxi tracking system. The expected costs and benefits of the new computerized tracking system are as follows:

i. The system would cost $2,100,000 to implement.
ii. Depreciation would be provided at $420,000 per annum.
iii. $75,000 has already been spent on staff training in order to evaluate the potential of the new system. Further training costs of $425,000 would be required in the first year if the new system is implemented.
iv. Sales are expected to rise to $11 million in Year 1 if the new system is implemented, thereafter increasing by 5% per annum. If the new system is not implemented, sales would be expected to increase by $200,000 per annum.
v. Despite increased sales, savings in vehicle running costs are expected as a result of the new system. These are estimated at 1% of total sales.
vi. Six new members of staff would be recruited to manage the new system at a total cost of $120,000 per annum.
vii. Cab Co would have to take out a maintenance contract for the new system at a cost of $75,000 per annum for five years.
viii. Interest on money borrowed to finance the project would cost $150,000 per annum.

Cab Co's cost of capital is 10% per annum.

Required:

Calculate the net present value of the planned investment project and state the financial acceptability of the project [10 Marks]

b) The following information relates to an investment project which is being evaluated by the directors of Fence Co, a listed company. The initial investment, payable at the start of the first year of operation, is $3·9 million.

Year	1	2	3	4
Net operating cash flow ($000)	1,200	1,500	1,600	1,580
Scrap value ($000)				100

The directors believe that this investment project will increase shareholder wealth if it achieves a return on capital employed greater than 15%. As a matter of policy, the directors require all investment projects to be evaluated using both the payback and return on capital employed methods. Shareholders have recently criticised the directors for using these investment appraisal methods, claiming that Fence Co ought to be using the academically-preferred net present value method.

The directors have a remuneration package which includes a financial reward for achieving an annual return on capital employed greater than 15%. The remuneration package does not include a share option scheme.

i. What is the payback period of the investment project? (2 Marks)
ii. Based on the average investment method, what is the return on capital employed of the investment project? (2 Marks)
iii. Critic the following statements, stating whether they are true or false

Statement 1: The return on capital employed method considers the time value of money

Statement 2: Return on capital employed must be greater than the cost of equity if a project is to be accepted

Statement 3: Riskier projects should be evaluated with longer payback periods (6 Marks)

QUESTION FOUR

a) Darlga Co is partly financed by 7% loan notes which are redeemable at their nominal value of \$1,000 per loan note in eight years' time. Alternatively, the loan notes are convertible after seven years into 110 ordinary shares of Darlga Co per loan note. The ordinary shares of Darlga Co are currently trading at \$6·50 per share on an ex dividend basis. The current cost of debt of the convertible loan notes is 8%.

Required:

Justifying any assumptions which you make; calculate the current market value of the loan notes of Darlga Co, using future share price increases of:

i. 4 % per year;
ii. 6% per year. (6 marks)

b) Discuss the limitations of the dividend growth model as a way of valuing the ordinary shares of a company (4 marks)
c) Discuss **five** factors that influence the dividend policy that a commercial company can adopt in regard to dividend payment. (10 marks)

QUESTION FIVE

a) The finance director of Widnor Co has been looking to improve the company's working capital management. Widnor Co has revenue from credit sales of \$26,750,000 per year and although its terms of trade require all credit customers to settle outstanding invoices within 40 days, on average customers have been taking longer. Approximately 1 % of credit sales turn into bad debts which are not recovered.

Trade receivables currently stand at \$4,458,000 and Widnor Co has a cost of short-term finance of 5% per year.

The finance director is considering a proposal from a factoring company, Nokfe Co, which was invited to tender to manage the sales ledger of Widnor Co on a with-recourse basis. Nokfe Co believes that it can use its expertise to reduce average trade receivables days to 35 days, while cutting bad debts by 70% and reducing administration costs by $50,000 per year. A condition of the factoring agreement is that the company would also advance Widnor Co 80% of the value of invoices raised at an interest rate of 7% per year. Nokfe Co would charge an annual fee of 0·75% of credit sales.

Assume that there are 360 days in each year.

Required:

i. Advise whether the factor's offer is financially acceptable to Widnor Co. (7 Marks)
ii. Briefly discuss how the creditworthiness of potential customers can be assessed. (3 Marks)

b) Identify and explain the key stages in the capital investment decision-making process, and the role of investment appraisal in this process. (5 marks)
c) Consider a stock with dividends that are expected to grow at 20% per year for four years, after which they are expected to grow at 5% pa, indefinitely. The last dividend paid was $1 and Ke=10%. Calculate the value of stock. (5 Marks)