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MACHAKOS UNIVERSITY

University Examinations for 2016/2017 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF BUSINESS ENTREPRENEURSHIP AND MANAGEMENT SCIENCES

FIRST YEAR FIRST SEMESTER EXAMINATION FOR DIPLOMA IN BUSINESS MANAGEMENT

BAC 030: FUNDAMENTAL OF BUSINESS MANAGEMENT

DATE: 6/6/2017 **TIME: 8:30 – 10:30 AM**

INSTRUCTIONS.

Answer Question One and Any Other Two

1. a) Highlight five causes and five solutions to the agency problem between shareholders and managers and clearly define who is the principal and who is the agent. (10 marks)

   b) State four actions that a company can undertake to improve on its working capital cycle (4 marks)

   c) An investor borrowed a 3 year loan of sh. 100,000 at an interest rate of 9% p.a. the repayment is to be made in 3 equal installments at the end of each year required.

      i) Calculate the annual installment (2 marks)

      ii) Prepare the loan armotisation schedule (4 marks)

   d) Consider a project whose initial cash outlay is kshs. 2million. The project is expected to generate cash flows amounting to kshs. 500,000 per annum in its five years of economic life. Required: calculate its internal rate of return. (5 marks)

   e) What are the factors affecting a company's capital structure. (5 marks)

2. a) Your company currently does not have a qualified finance manager to head its finance department. As the CEO of the company's Board of directors have asked you to draft a board paper entitled "recruitment of a finance manager" for their consideration and approval. In reference to the functions of a finance manager, summarize the main points which you would include in your Board paper under the following headlines:

   i) Managerial finance functions (3 marks)

   ii) Managerial investment functions (3 marks)

   iii) Managerial routine functions (3 marks)

   iv) Managerial liquiding decisions (3 marks)

   b) Jane deposited sh. 800,000 in a savings A/C that pays 6% interest compounded annually and would like to know how much the account has after 6 and 10 years compute these amounts after the specified periods. (4 marks)

   c) Advice Rose who wishes to determine the present value of a sh. 100,000 Annuity in perpetuity discounted at 10% and hence assists her in getting the present value of this amount. (4 marks)

3. a) Support the statement that profit maximization objective goal is a traditional goal and it should not be the major goal of a firm. (6 marks)

   b) The following information was extracted from the books of Malanda limited for the financial year ended 31/12/2004.

	shs
Stock of raw materials	120,000
Work in progress	36,000
Stock of finished goods	140,000
Debtors	360,000
Annual sales	4,400,000
Cost of production	2,100,000
Annual cost of sales	2,500,000
Trade creditors	200,000
Purchase of raw materials	1,560,000

Required:

Compute the working capital cycle (10 marks)

c) Distinguish between ordinary share capital and preference share capital as sources of finance (4 marks)

4 a) State and explain four factors that affect a company's cost of capital. (8 marks)

b) The following information relates to the capital structure of A,B C ltd for the year ended 31/12/2014

	shs
Ordinary shares @ sh 20 per value	640,000
8% preference shares @ sh.22 par value	550,000
10% preference shares @ sh.18 per value	540,000
10% debentures @ sh. 20par value	400,000
	2,130,000

Additional information

i) Ordinary shares market price is sh 41 and it includes sh.1 in floatation cost.

ii) 8% preference shares currently sell at sh.25

iii) 10% preference shares currently sell at sh. 30

iv) 10% debentures currently sell at sh. 30

The ordinary shareholders expect cash dividends of sh. 4.80 per share and a capital appreciation of sh. 1.00 at the end of every year. The corporate tax rate is 40%.

Required

i) Compute the component cost of each source of finance (6 marks)

ii) Calculate the firms weighted average cost of capital (6 marks)

5. a) XYZ is considering two mutually exclusive projects A and B. the projects are expected to generate the following cash flows.

Year	project A	project B
	Cash flows "shs"	cash flows "shs"
1	300,000	250,000
2	300,000	180,000
3	300,000	200,000
4	300,000	400,000
5	300,000	700,000

Each of the project requires an initial investment of shs. 1,000,000 project B has a salvage value of shs. 200,000 at the end of its economic life. The firms cost of capital is 8% for each of the project, calculate

i) Pay back period (3 marks)

ii) Net present value (4 marks)

iii) Profitability index (3 marks)

b) Explain the factors that a company should consider in deciding the appropriate source of finance that it should go for (10 marks)

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SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF BUSINESS ENTREPRENEURSHIP AND MANAGEMENT SCIENCES

FIRST YEAR SECOND SEMESTER EXAMINATION FOR DEGREE IN

BACHELOR OF COMMERCE

BMS 102: MANAGEMENT MATHEMATICS II

DATE: 5/6/2017 **TIME: 2:00 – 4:00 PM**

INSTRUCTIONS.

Answer Question One and Any Other Two

1. a) Explain the following terms as used in matrix Algebra (6 marks)
   - i) Stochastic process
   - ii) Transition matrix
   - iii) Transpose of a matrix
   - iv) Steady state

   b) Write short notes on the following terms (3 marks)
   - i) An objective function
   - ii) Constraints
   - iii) Feasible region

   c) Two private schools, Hekima and Elite junior academies had 500 and 800 pupils at the beginning of a certain year. By the end of the year, 100 Hekima pupils transferred to Elite and 200 Elite pupils transferred to Hekima. Find the number of pupils in each school
   - i) After two years (3 marks)
   - ii) In the long range prediction (3 marks)

d) From the game below, advice the players (3 marks)

		y
	y1	y2
x x1	-3	-4
x2	-1	-3

e) From past experience it is known that a machine is set up correctly on 90% of occasions. If the machine is set up correctly then the conditional probability of a good part is 95% but if the machine is not set up correctly then the conditional probability of a good part is only 30% On a particular day the machine is set up and the first component produced and found to be good What is the probability that a machine is set up correctly. Display this in the form of a probability tree (5 marks)

f) 6 Apprentices A,B,C,D,E,F have to be paired into two's for an exercise. In how many ways may this be done. Assume that order is not important. (2 marks)

g) The annual demand for an item is known to be 4000 units which are uniformly distributed over the year. The unit cost of the item is ksh.400 and the holding cost is 10% of the value. The cost per order is ksh. 450

Required;

i) EOQ (2 marks)

ii) Total cost of having stock (3 marks)

2. a) State and explain the three requirements in linear programming (6 marks)

b) A baker makes two products large loaves and small round loaves. He can sell up to 280 of the large loaves and up to 400 small round loaves per day. Each large loaf occupies 0.01m3 of shelf space available. Each small loaf occupies 0.08m3 of space and there are 4m3 of shelf space available. There are 8 hours available each night and he can produce large loaves at the rate of 40 per hour and small loaves at the rate of 80 per hour. The profit on each large loaf is sh. 5.00 and sh.3.00 on the small round loaf.

Required:

i) Formulate the above LP problem (7 marks)

ii) In order to maximize profits, how many large and small round leaves should be produced (7 marks)

3 a) State four assumptions of the markov process (4 marks)

b) The economy of a certain developing country is made up of three factors, X,Y and Z. the input output coefficients of matrix A is given as;

	x	y	z
x	0.6	0.4	0
y	0	0.5	0.4
z	0.2	0	0.1

i) Compute the Leontief inverse input output matrix (7 marks)

ii) Determine the output in each sector necessary to meet the demands of 2400, 4000, 3600 units for x, y and z respectively (4 marks)

iii) Show how the total output in sector y is distributed among its users (3 marks)

iv) Determine how much is used in the production process in each sector (2 marks)

4. a) State four limitations of game theory (4 marks)

b) A manager in the Kenya institute of management is working under the following states of nature and associated payoffs.

Alternatives	**States of nature**		
	S_1	S_2	S_3
A	1200	600	-300
B	900	800	300
C	500	200	500
probability	0.25	0.45	0.30

Required

Determine the optimal decision under the following criteria

i) Maxi max (2 marks)

ii) Maxi mini (2 marks)

iii) Laplace (3 marks)

iv) Minimax (2 marks)

v) Hurwicz given $\alpha = 0.7$ (3 marks)

c) A company is located at the city centre. Out of the total number of employees, 70% are university graduates. Out of the total number of university graduates employed by the company, 15% are in the accounts department Of the employees who are not university graduates, 75% are in the accounts department. Find the probability that:-

i) An employee selected at Random is in the accounts department. (2 marks)

ii) An employee selected at random is neither in the accounts department nor a university graduate. (5 marks)

5. a) State the costs components associated with holding and ordering stocks. (4 marks)

b) A company buys 30,000 units of an item per year at an ordering cost of sh 25 per order and holding charges are 20% of the cost of average inventory. The company has provided the following discount schedule from a supplier.

Quantity	discount
1 – 30,000	less 2%
3000 – 4999	less 4%
5000 – 6999	less 6%
7000 – 8999	less 8%
Over 9000	less 10%

Required:

i) Establish the most economical quantity to order (10 marks)

ii) Using crammers rule, find the value of the unknown in the simultaneous equations

(6 marks)

$4x - 2y + 3z - 20 = 0$

$2y - 2.5z - 2x + 16 = 0$

$-1.5z + 4x - 2y - 2 = 0$