UNIVERSITY
OF
JOHANNESBURG

MODULE	:	**Logistics Management 2A Examination**
CODE	:	**LBE2A01 / LMA 12A2**
DATE	:	**29 MAY 2018**
DURATION	:	**180 Minutes**
TOTAL MARKS	:	**140**

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EXAMINER	:	**Dr P Kilbourn**
MODERATOR	:	**Prof J Walters**
NUMBER OF PAGES	:	**12 Pages**

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INSTRUCTIONS TO CANDIDATES:

- Answer all the questions
- Use the Multiple Choice Answer sheet provided to answer section A
- Question papers must be handed in.
- This is a closed book assessment.
- Read the questions carefully and answer only what is asked.
- Number your answers clearly.
- Write neatly and legibly
- Structure your answers by using appropriate headings and sub-headings.
- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.

SECTION A – MULTI-CHOICE QUESTIONS [50 MARKS]

SECTION B [70 MARKS]

[ANSWER ALL QUESTIONS – REFER TO STUDENT AID ON THE LAST PAGE OF THE PAPER FOR AID/FORMULAS FOR CALCULATION QUESTIONS]

QUESTION 1   (10 Marks)
Describe Competitive Advantage from a business perspective and explain the role of logistics management in creating it.

QUESTION 2   (8 Marks)
A business man, John Mbete has been offered the opportunity to buy shares in a new small logistics enterprise. In the process of calculating the current value of the said enterprise, John identified the following budgeted future free cash flows:
After 1 year: R80 000
After 2 years: R120 000
After 3 years R140 000

2.1)   Based on his assessment of the risk of the investment, John uses a cost of equity rate of 14% in his valuation. Given this, what is the total present value of the expected future free cash flows? (4)
2.2)   John is informed that the company will have a terminal value of R500 000 in three years and currently has 1000 shares. What is the current value of a share for the company? (2)
2.3)   John is offered an opportunity to buy a limited number of shares at R550 a share. Does it represent good or poor value? Briefly motivate your answer (2)

QUESTION 3   (12 Marks)
Procurement plays a major role in ensuring the successful operation of a business enterprise. In the context of this statement discuss the following:
3.1)   Three **tactical** procurement objectives (3)
3.2)   Corporate standing as criteria used when investigating potential suppliers (4)
3.3)   Logistical supply capability as criteria when investigating potential suppliers (5)

QUESTION 4   (5 Marks)
Fairwheather PTY Ltd manufactures air conditioners for the South African Market. The most recent profit calculation for Fairwheather PTY Ltd is as follows:

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Sales (8 000 units)   24 000 000
Less:
          Variable expenses   16 000 000
          Fixed expenses   5 000 000
Net profit   3 000 000

4.1)   Calculate the breakeven sales level for Fairwheather PTY Ltd (2). Explain what this result means (1)
4.2)   Calculate the Margin of Safety (in Rands) for Fairwheather PTY Ltd (2)

QUESTION 5   **(10 Marks)**
Superfast Logistics Ltd has provided the following financial statements:

Statement of comprehensive income for the year ended 31 December 2017
Assets	(R000)
Non-current assets	7 000
Current assets	5 000
	12 000
Equity and liabilities	
Equity	5 000
Non-current liabilities	5 000
Current liabilities	2 000
	12 000

Statement of comprehensive income for the year ended 31 December 2017
	(R000)
Revenue	19 000
Cost of sales	12 000
Gross profit	7 000
Expenses	4 500
Profit before interest	2 500
Interest	500
Profit before tax	2 000
Tax	600
Profit after tax	1 400

Based on the financial statements provided above, calculate the following:

5.1 Profit margin (2)
5.2 Asset turnover (2)
5.3 Return on assets (2)
5.4 Financial leverage (2)
5.5 Return on equity (2)

QUESTION 6   **(10 Marks)**
XBK Wholesalers operates in the retail industry and sells various high technology products. One of the products sold by the company is an electronic measuring device by the code name TZ321. The logistics manager needs to plan the inventory for this item.

6.1   What would be the most economic order quantity (EOQ) for TZ321 given the following information (show all your calculations and base your answer on the total of annual ordering   costs, annual carrying costs and annual transport costs). (Formulas which you may find useful are provided on the last page of this question paper) (6 Marks):

- Annual demand volume = 50000 units
- Unit value at cost = R1500
- Inventory carrying cost percentage = 12% annually
- Ordering costs, including handling = R450 per order
- Transport costs for quantities below 700 units = R35 per unit
- Transport costs for quantities of 700 units or more = R30 per unit

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6.2   Calculate the safety stock requirements for TZ321, given the following information (4
      Marks):
      •   Standard deviation of weekly sales = 35 units
      •   Standard deviation of the lead time = 0,35 weeks
      •   Average weekly sales = 700 units
      •   Average lead time = 2 weeks
      •   Service level requirement = 98%

QUESTION 7   (17 Marks)
As a logistics student you found part-time work with a manufacturing company which operates
a push-based product flow system. The logistics manager Nomsa Mbeki, needs to consider
trade-offs between inventory holding costs and stock-out costs. She understands the cost of
a stockout but asked for your advise on the costs associated with inventory holding. She is
also not convinced of the reasons for holding stock other than averting stock-outs. Fully advise
Nomsa on the following:
7.1   inventory carrying costs and how it is calculated. (9)
7.2   the reasons for carrying stock (other than averting stock-outs) (8)

QUESTION 8   [16 Marks]
Discuss International trade in terms of:
8.1)   The use of Incoterms (broadly, what it is, what it is used for) (5)
8.2)   The role and importance of Airfreight Forwarders (6)
8.2)   The characteristics, role and importance of Container Vessels as a prominent type of
       ship used in international cargo transport (5)

Aid/Formulas relevant to section B:

Present Value Table

Periods	Interest rates (r)									
(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.079	0.065
16	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026

$PV = FV \times [1 \div (1+i)^n]$

$\sigma = \sqrt{\sum (\chi_i - \mu)^2 / n}$

$\sigma_c = \sqrt{TS_S^2 + D^2 S_T^2}$

$EOQ = \sqrt{2AS / CV}$