



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF COMMERCE, HUMAN SCIENCE AND EDUCATION

DEPARTMENT OF MARKETING, LOGISTICS AND SPORT MANAGEMENT

QUALIFICATION : BACHELOR OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT HONOURS	
QUALIFICATION CODE: 08LSCH	LEVEL: 8
COURSE CODE: FTL821S	COURSE NAME: FINANCIAL TECHNIQUES FOR LOGISTICS MANAGEMENT OPERATIONS
SESSION: NOVEMBER 2022	PAPER: THEORY AND PRACTICAL
DURATION: 180 MINUTES	MARKS: 100
FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS

1. This question paper consists of six pages including this cover page.
2. Start with the question that you understand best, and please number all your answers clearly, and correctly.
3. Avoid any form of academic dishonesty.
4. Where applicable, please show all your workings.
5. Students should use their intuitions to deal with any perceived ambiguities, and all assumptions made should clearly be indicated as such.
6. For qualitative answers, the number of marks allocated should serve as the basis for the length of your answer.
7. Unless otherwise stated, round off all your final answers to two decimal places.
8. The use of Financial Calculators or PV/FV Tables is permitted.
9. Strictly, pencil work shall be marked.

-*THE PAPER CONSIST OF 5 PAGES INCLUDING THIS COVER PAGE + 1 PAGE OF PV & FV TABLE

QUESTION 1**(25 MARKS, 45 MINUTES)**

Suppose your entity is contemplating to purchase a new motor vehicle as a way of increasing its fleets in five years' time. The value of the motor vehicle is estimated at N\$350 000. No deposit would be required. In order to make this happen, your entity decides to invest N\$25 000 at 12% per annum each year for the next five years. The investment should be made at the end of each year. Accordingly, your entity would be required to top up for any shortfall should there be any. Luckily, your entity's bank is willing to finance the shortfall, payable at 10% interest per annum over five years' equal annual instalments.

REQUIRED:		MARKS
1.1.	What type of annuity implied in above?	2
1.2.	Determine the value of your entity's investment at the end of five years.	5
1.3.	Is the investment sufficient to cover the total purchase.	2
1.4.	What made up an instalment?	2
1.5.	Based on your answer in (1.3), calculate the instalment to be paid at 10% interest over five year period.	3
1.4.	Prepare an Amortization table based on the shortfall obtained in 1.3, and the instalment figure you have calculated in (1.5). Show all the applicable columns.	11
TOTAL MARKS		25

QUESTION 2**(25 MARKS, 47 MINUTES)**

Consider the following data which has been extracted from the records of two rival Suppliers in a manufacturing industry.

Income Statement for the year ended 31 December 2021			
		SUPPLIERS	
	Notes	A	B
Sales revenue	1	150,000.00	135,000.00
Less: Cost of sales		90,000.00	75,900.00
Gross profit		60,000.00	59,100.00
Less: Operating expenses		25,000.00	12,000.00
Profit before interest and tax		35,000.00	47,100.00
Interest paid		5,000.00	6,000.00
Profit before tax		30,000.00	41,100.00
Taxation @ 30%		9,000.00	12,330.00
Profit after tax		21,000.00	28,770.00

Balance Sheet as at 31 December 2021			
		SUPPLIERS	
		A	B
ASSETS:	Notes		
Total Non-current assets		500,000.00	480,000.00
Total Current assets	2	300,000.00	220,000.00
TOTAL ASSETS		800,000.00	700,000.00
EQUITY AND LIABILITIES:			
EQUITY:			
Common equity		350,000.00	250,000.00
Retained earnings		21,000.00	28,770.00
TOTAL EQUITY		371,000.00	278,770.00
LIABILITIES:			
Total Long-term debts		317,000	326,230
Total Short-term debts		112,000	95,000
TOTAL LIABILITIES		429,000	421,230
TOTAL EQUITY AND LIABILITIES		800,000	700,000

Notes:

- For each company, 20% of sales revenue is cash and the balance is on credit.
- Accordingly, for each company, 15% of total current assets represents inventory, while 10% of the same figure represents accounts receivable.

NB: Assume a 365 days-calendar year.

REQUIRED:		MARKS
2.1.	Using the information provided, for each supplier, compute the following ratios and comment on results: a. Current ratio; b. Quick ratio;	9
2.2.	Using the information provided, for each supplier, calculate the following ratios and assuming that you are to pick one of the two suppliers as your potential supplier, comment on the results. a. Net profit margin; b. Gross profit margin; c. Average collection period; d. Accounts receivable turnover; e. Inventory turnover; f. Days sales in inventory;	16

	g. Debt ratio.	
TOTAL MARKS		25

QUESTION 3 (15 MARKS, 27 MINUTES)

As a way of raising finance to finance capital projects, suppose your organization has issued a N\$ 1 000 bond with a coupon rate of 10% per annum paid annually, and promises to pay back the principal in five years. Suppose the current market interest rate on similar bonds is 10%.

REQUIRED: Carefully, answer the following questions:		MARKS
3.1.	Distinguish between a bond holder and bond issuer, and explain how your organization is called in this transaction.	2
3.2.	Compute the value of this bond today as per the given information, and state how it is trading.	4
3.3.	Suppose no change in the coupon rate. What would happen if: <ul style="list-style-type: none"> i. Current market interest rate increases by 10%. ii. Current market interest rate decreases by 10%. 	9
TOTAL MARKS FOR QUESTION 4		15

QUESTION 4**(25 MARKS, 47 MINUTES)**

Suppose your organization is considering to invest in one of the following mutually exclusive projects. It is your organization's policy to accept projects of this nature on the basis of their risk profile which it measures through each project's standard deviation. The expected returns at various states of the economy are provided as follows:

Statement of the economy	Probability	Project A	Project B	Project C
Normal	30%	10%	12%	8%
Boom	50%	15%	18%	12%
Recession	20%	-10%	-6%	-4%

REQUIRED: Carefully answer the following questions within their context.		MARKS
4.1.	What does the risk-return tradeoff say as far as investments are concern?	2
4.2.	Mention two types of risk categories and state which one cannot be diversified, and why? For each, identify the statistical measure that can be used to measure it.	4
4.3.	On the basis of standard deviation, which of the three projects would you recommend to your organization and why?	15
4.4.	Differentiate between Degree of operating leverage (DOL), and Degree of Financial Leverage (DFL). Clearly explain what each is an indicative of.	4
TOTAL MARKS		25

QUESTION 5 (10 MARKS)

REQUIRED:		MARKS
	What are the five-C's of credit, and why is it important to consider them when profiling prospective suppliers?	10
TOTAL AMRKS		10

<<<END OF QUESTION PAPER>>>

Table 4

Present value interest factor of an (ordinary) annuity of \$1 per period at i% for n periods, $PVIFA(i,n) = \$1 * (1/(1+i) + 1/(1+i)^2 + 1/(1+i)^3 \dots 1/(1+i)^n)$.																				
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.823	9.077	8.422	7.843	7.330	6.873	6.464	6.097	5.766	5.467	5.195	4.948
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.427	8.694	8.055	7.496	7.003	6.566	6.177	5.829	5.517	5.235	4.979
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.644	8.855	8.176	7.586	7.070	6.617	6.215	5.858	5.539	5.251	4.992
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.779	8.951	8.244	7.634	7.105	6.642	6.233	5.871	5.548	5.258	4.997
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.915	9.042	8.304	7.675	7.133	6.661	6.246	5.880	5.554	5.262	4.999