



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF MANAGEMENT SCIENCES

DEPARTMENT OF ACCOUNTING, ECONOMICS AND FINANCE

QUALIFICATION: BACHELOR OF ACCOUNTING	
QUALIFICATION CODE: 07BOAC	LEVEL: 7
COURSE CODE: GMA711S	COURSE NAME: MANAGEMENT ACCOUNTING 310
SESSION: JULY 2019	PAPER: THEORY AND CALCULATIONS
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	L. Odada and E. Mushonga
MODERATOR:	A. Makosa

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Start each question on a new page, number the answers correctly and clearly.3. Write clearly and neatly.4. Round off only final answers to two (2) decimal places5. Questions relating to this examination may be raised in the initial 30 minutes after the start of the paper. Thereafter, candidates must use their initiative to deal with any perceived error or ambiguities and any assumptions made by the candidate should be clearly stated.

PERMISSIBLE MATERIALS

1. Scientific calculators

THIS QUESTION PAPER CONSISTS OF 7 PAGES (Including this front page)

QUESTION 1**[25 MARKS]**

The Harold Pupkewitz Graduate School of Business (HP-GSB) seeks to maximise the Namibia University of Science Technology (NUST) contribution to social, intellectual and economic development of Namibia and SADC. Thus, the vision of the HP-GSB is becoming an innovative Business School, competitive with Africa's best and educating leaders for Namibia's business advancement. HP-GSB has been established to provide world-class business education that meets the needs of economy and society in Namibia, SADC and Africa.

HP-GSB also provides private tuition courses in accounting. The courses are generally attended by individuals who work as bookkeepers for other companies and who want to develop their practical skills. None of the attendees is aiming towards any professional qualification or examination. Courses are run on basic book-keeping, value added tax, payroll, credit control, company administration and basic business management. Other custom-made courses run on demand and are charged out at higher than normal rates. HP-GSB has six branches nationwide with individual branch managers. The head office is situated in Windhoek and has responsibility for company accounting, payroll and inventory ordering activities. Individual branch managers have responsibility for all other areas of the business, such as pricing, product mix and staffing.

Each branch rents its premises (a national company policy) and staff numbers range from 4 in Walvisbay to 18 in Ongwediva. Staff are generally former accountants, bankers and tax inspectors who concentrate on keeping courses practical and applicable to their customers. To date managers have always been appraised by return on investment (ROI) with a target return of 40%. Branches have regularly exceeded this target and branch managers seem happy to be appraised in this manner.

Evans Mushonga, the company's main shareholder and managing director recently visited all branches in order to promote corporate identity and inspect performance at a local level. He returned dismayed at the condition of some branch premises and feels overall that, although recent financial performance has been consistent with previous years, the company does not seem to have changed or developed since he last visited branches five years ago. Mushonga believes that he needs to change the appraisal method for the branches so that they fit more closely with what he expects from the company. He wants the business to develop and grow to become the leading provider of business training in the country.

REQUIRED	MARKS
a) Highlight any five (5) problems the business is likely to have from its use of ROI as its sole performance indicator	5
b) Describe the balance scorecard approach to performance measurement and how it might rectify these problems.	10
c) Outline possible performance measures which might be used in each area of the balance scorecard by HP-GSB.	10

QUESTION 2

[25 MARKS]

M + Z Motors has a long and illustrious history in the motor vehicle industry in Namibia. Established in 1936, they are the approved supplier of Mercedes-Benz, Smart, Chrysler / Jeep / Dodge and Fiat / Alfa in the passenger vehicles range and for commercial vehicles they represent the Mercedes-Benz, Freightliner and the FUSO range. M + Z Motors are known for their strong focus on customer satisfaction and service excellence. They have a state-of-the-art service centre which has 25 working bays, wheel alignment, air conditioner service station, tyre fitting equipment as well as a specialist electrical and electronic repair centre. To ensure the highest level of service and customer-satisfaction, they employ only factory trained technicians.

M + Z Motors has a new product called the "Duel" that their design team have recently developed after spending the past two years on research and development. After that long battle, the company now faces two courses of action, that is, to test the market for Duel, or abandon it. It will cost them N\$100 000 to test the market for the product, and the market response could be positive or negative, with probabilities of sixty percent and forty percent respectively. If the response is positive, the company could either abandon the product, or continue to market it. If the company goes ahead with the market launch, the demand might be low or high, with probabilities of sixty percent and forty percent respectively, and the net gain for the low demand would be N\$100 000, or N\$750 000 for a high demand. If the result of the test marketing is negative and the company goes ahead and markets the product the estimated losses would be N\$600 000. The company may at any point in time abandon the product, and there would be a net gain of N\$50 000 from the auction scrap.

REQUIRED	MARKS
a) Using a decision tree, advise M + Z Motors as to the best possible course of action they should take.	15
b) Explain what a transfer price is and also discuss the three different methods of determining transfer prices.	7
c) What is meant by the term "decentralisation"?	3

QUESTION 3

[25 MARKS]

Telecom Namibia Limited is the national telecommunications operator, established in August 1992 and wholly owned by the Government of the Republic of Namibia. Telecom Namibia is functioning as a commercialised company and as a subsidiary of its parent company, Namibia Post and Telecom Holdings Limited. Telecom Namibia serves more than 396 000 (fixed and mobile) customers, with 986 employees and annual revenue of more than N\$ 1.5 Billion. Telecom Namibia is a customer driven company that change telecommunication products and services to the demand of its customers. Today's customers want fast, reliable and advance services and Telecom Namibia is there to make that possible. Telecom Namibia runs the largest Digital Telecommunication Network in Namibia. The company is a leading supplier of voice, text, data and video solutions.

Telecom Namibia Limited is evaluating the investment in new machinery to manufacture either product A or Product B. Two alternative machines are being considered: Machine X to manufacture product A and Machine Y to manufacture product B.

Production and sales units are expected to be:

	Product A	Product B
Year 1	19 000	15 000
Year 2	20 000	15 000
Year 3	20 000	23 000
Year 4	19 000	25 000

Details of the two machines are:

	X	Y
Cost	N\$310 000	N\$350 000
Economic useful Life	4 years	4 years
Residual value	N\$30 000	N\$50 000

Additional information

- Both products will sell for N\$20 per unit.
- Product A will have variable costs of N\$10 per unit.
- Product B will have variable costs of N\$9 per unit.
- Fixed costs (inclusive of straight-line depreciation of the machine) will be N\$90 000 per annum for product A, and N\$120 000 per annum for product B.
- The unit selling price and all annual fixed and unit variable costs will remain constant over the four-year period.
- The company has a cost of capital of 10% per annum.

REQUIRED	MARKS
a) Calculate the annual cash flows arising from the production of both product A and product B. Assume that each machine will sell for its residual value at the end of four years.	8
b) Evaluate each machine using each of the following methods: i) Payback; ii) Net present value (NPV).	10
c) Advise management as to which machine should be purchased, giving two reasons.	3
d) Another method of Capital Investment Appraisal is the Accounting Rate of Return. State two advantages and two disadvantages associated with this method of appraisal.	4

QUESTION 4**[15 MARKS]**

Steel Force was founded by Günther Henle, in September 1995 and is a 100% Namibian owned company with a branch in Windhoek and Swakopmund. Their mission is to employ and educate fellow Namibians in the Industry whilst supplying only the highest quality steel products to their clients at competitive prices to uplift the economy. Steel Force is considering a project which has a useful life of two years and the project requires an investment of N\$7 million in year zero. The project will involve manufacturing of product Z with a selling price of N\$10 per unit and the cash inflow from the sale of the manufactured product is N\$6.5 million in each of the two years. Total variable costs are estimated at N\$2 million for each year. The cost of capital is 8%.

REQUIRED	MARKS
Measure the sensitivity of the project NPV to change in the following variables: initial investment, sales volume, selling price, variable cost per unit, and cost of capital.	15

QUESTION 5**[10 MARKS]**

Wispeco Namibia is the largest manufacturer and distributor of steel windows, door frames, and garage doors in Namibia. They are also one of the largest distributors of aluminium window and door profiles in Namibia and recently entered the alternative building industry with the world acclaimed Vela Building System. Wispeco Namibia currently has a warehouse and sales facilities in Windhoek, Swakopmund and Ondangwa enabling them to successfully service the Namibian Market. Wispeco Namibia is deciding which of two alternative machines (X and Y) to purchase. The useful lives for machines X and Y are two and three years respectively. The cash flows associated with each of the machines are given in the table below:

Year	0	1	2	3
	N\$000	N\$000	N\$000	N\$000
Machine X	-200	200	230	
Machine Y	-240	200	230	240

Each of the machines would be replaced at the end of its useful life by an identical machine. You should assume that the cash flows for the future replacements of machines X and Y are the same as those in the table above. The company's cost of capital is 12% per annum.

REQUIRED	MARKS
a) Calculate, using the annualised equivalent method, whether the company should purchase machine X or machine Y.	7
b) Highlight any three (3) limitations of using the annualised equivalent method when making investment decisions.	3

END OF EXAMINATION PAPER

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TABLE B

Present value interest factor of \$1 per period at i% for n periods, PVIF(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	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	0.047	0.038	0.030	0.024	0.020	0.016	0.013	0.010
30	0.742	0.552	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033	0.026	0.020	0.015	0.012	0.009	0.007	0.005	0.004
35	0.706	0.500	0.355	0.253	0.181	0.130	0.094	0.068	0.049	0.036	0.026	0.019	0.014	0.010	0.008	0.006	0.004	0.003	0.002	0.002
40	0.672	0.453	0.307	0.208	0.142	0.097	0.067	0.046	0.032	0.022	0.015	0.011	0.008	0.005	0.004	0.003	0.002	0.001	0.001	0.001
50	0.608	0.372	0.228	0.141	0.087	0.054	0.034	0.021	0.013	0.009	0.005	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000

TABLE A

Future value interest factor of \$1 per period at i% for n periods, FVIF(i,n).

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110	1.120	1.130	1.140	1.150	1.160	1.170	1.180	1.190	1.200
2	1.020	1.040	1.061	1.082	1.103	1.124	1.145	1.166	1.188	1.210	1.232	1.254	1.277	1.300	1.323	1.346	1.369	1.392	1.416	1.440
3	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331	1.368	1.405	1.443	1.482	1.521	1.561	1.602	1.643	1.685	1.728
4	1.041	1.082	1.126	1.170	1.216	1.262	1.311	1.360	1.412	1.464	1.518	1.574	1.630	1.689	1.749	1.811	1.874	1.939	2.005	2.074
5	1.051	1.104	1.159	1.217	1.276	1.338	1.403	1.469	1.539	1.611	1.685	1.762	1.842	1.925	2.011	2.100	2.192	2.288	2.386	2.488
6	1.062	1.126	1.194	1.265	1.340	1.419	1.501	1.587	1.677	1.772	1.870	1.974	2.082	2.195	2.313	2.436	2.565	2.700	2.840	2.986
7	1.072	1.149	1.230	1.316	1.407	1.504	1.606	1.714	1.828	1.949	2.076	2.211	2.353	2.502	2.660	2.826	3.001	3.185	3.379	3.583
8	1.083	1.172	1.267	1.369	1.477	1.594	1.718	1.851	1.993	2.144	2.305	2.476	2.658	2.853	3.059	3.278	3.511	3.759	4.021	4.300
9	1.094	1.195	1.305	1.423	1.551	1.689	1.838	1.999	2.172	2.358	2.558	2.773	3.004	3.252	3.518	3.803	4.108	4.435	4.785	5.160
10	1.105	1.219	1.344	1.480	1.629	1.791	1.967	2.159	2.367	2.594	2.839	3.106	3.395	3.707	4.046	4.411	4.807	5.234	5.695	6.192
11	1.116	1.243	1.384	1.539	1.710	1.898	2.105	2.332	2.580	2.853	3.152	3.479	3.836	4.226	4.652	5.117	5.624	6.176	6.777	7.430
12	1.127	1.268	1.426	1.601	1.796	2.012	2.252	2.518	2.813	3.138	3.498	3.896	4.335	4.818	5.350	5.936	6.580	7.288	8.064	8.916
13	1.138	1.294	1.469	1.665	1.886	2.133	2.410	2.720	3.066	3.452	3.883	4.363	4.898	5.492	6.153	6.886	7.699	8.599	9.596	10.699
14	1.149	1.319	1.513	1.732	1.980	2.261	2.579	2.937	3.342	3.797	4.310	4.887	5.535	6.261	7.076	7.988	9.007	10.147	11.420	12.839
15	1.161	1.346	1.558	1.801	2.079	2.397	2.759	3.172	3.642	4.177	4.785	5.474	6.254	7.138	8.137	9.266	10.539	11.974	13.590	15.407
16	1.173	1.373	1.605	1.873	2.183	2.540	2.952	3.426	3.970	4.595	5.311	6.130	7.067	8.137	9.358	10.748	12.330	14.129	16.172	18.488
17	1.184	1.400	1.653	1.948	2.292	2.693	3.159	3.700	4.328	5.054	5.895	6.866	7.986	9.276	10.761	12.468	14.426	16.672	19.244	22.166
18	1.196	1.428	1.702	2.026	2.407	2.854	3.380	3.996	4.717	5.560	6.544	7.690	9.024	10.575	12.375	14.463	16.879	19.673	22.901	26.623
19	1.208	1.457	1.754	2.107	2.527	3.026	3.617	4.316	5.142	6.116	7.263	8.613	10.197	12.056	14.232	16.777	19.748	23.214	27.252	31.948
20	1.220	1.486	1.806	2.191	2.653	3.207	3.870	4.661	5.604	6.727	8.062	9.646	11.523	13.743	16.367	19.461	23.106	27.393	32.429	38.338
25	1.282	1.641	2.094	2.666	3.386	4.292	5.427	6.848	8.623	10.835	13.585	17.000	21.231	26.462	32.919	40.874	50.658	62.669	77.388	95.396
30	1.348	1.811	2.427	3.243	4.322	5.743	7.612	10.063	13.268	17.449	22.892	29.960	39.116	50.950	66.212	85.850	111.065	143.371	184.675	237.376
35	1.417	2.000	2.814	3.946	5.516	7.686	10.677	14.785	20.414	28.102	38.575	52.800	72.069	98.100	133.176	180.314	243.503	327.997	440.701	590.668
40	1.489	2.208	3.262	4.801	7.040	10.286	14.974	21.725	31.409	45.259	65.001	93.051	132.782	188.884	267.864	378.721	533.869	750.378	1,051.668	1,469.772
50	1.645	2.692	4.384	7.107	11.467	18.420	29.457	46.902	74.358	117.391	184.565	289.002	450.736	700.233	1,083.657	1,670.704	2,566.215	3,927.357	5,988.914	9,100.438