

UNIVERSITY OF SWAZILAND
DEPARTMENT OF ACCOUNTING
SUPPLEMENTARY EXAMINATION PAPER 2010

DEGREE/DIPLOMA AND YEAR OF STUDY: B.COM V

TITLE OF PAPER : MANAGEMENT ACCOUNTING II

TIME OF PAPER : TWO (2) HOURS

INSTRUCTIONS:

1. TOTAL NUMBER OF QUESTIONS ON THIS PAPER :
FOUR (4)
2. ANSWER QUESTION ONE AND ANY OTHER TWO
QUESTIONS
3. THE MARKS AWARDED FOR A QUESTION/PART
ARE INDICATED AT THE END OF EACH
QUESTION/PART OF THE QUESTION
4. ALL CALCULATIONS ARE TO BE MADE TO THE
NEAREST LILANGENI
5. WHERE APPLICABLE, SUBMIT ALL WORKINGS AND
CALCULATIONS

NOTE : YOU ARE REMINDED THAT IN ASSESSING YOUR WORK,
ACCOUNT WILL BE TAKEN OF ACCURACY OF THE
TOGETHER WITH THE LAYOUT AND PRESENTATION OF
YOUR FINAL ANSWER.

SPECIAL REQUIREMENTS : NONE

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN
GRANTED BY THE INVIGILATOR.

QUESTION 1

Gordon Reisch Enterprises is a diversified company that has, among other segments, a segment that makes high-quality compact disc players and another segment that produces speakers. Costs for a pair of speakers produced by the Speaker Division are :

Direct materials	E22	
Direct Labour	15	
Variable overhead	3	
Variable SG&A	<u>2</u>	
Total variable cost		E42
Fixed overhead*	E 8	
Fixed SG&A	<u>2</u>	<u>10</u>
Total per par		52
Markup on total variable cost (33 1/3%)		<u>14</u>
List price to external customer		<u>E66</u>

*Fixed costs are allocated to all units produced based on estimated annual production.

- Estimated annual production : 400,000 pairs of speakers
- Estimated sales to outside entities: 300,000 pairs of speakers
- Estimated sales by the Speaker Division to the CD Player Division: 100,000 Pairs of speakers

The managers of the two divisions are currently negotiating a transfer price.

REQUIRED:

- Determine a transfer price based on variable product cost. **(7 Marks)**
- Determine a transfer price based on total variable cost plus markup
(7 Marks)
- Determine a transfer price based on full production cost. **(7 Marks)**
- Determine a transfer price based on total cost per pair **(7 Marks)**
- Assume that the Speaker Division has no alternative use for the facilities that make the speakers for internal transfer. Also assume that the Player Division can buy equivalent speakers externally for E48. Calculate the upper and lower limits for which the transfer price should be set. **(14 Marks)**
- Compute a transfer price that divides the "profit" between the two divisions equally. **(4 marks)**
- In contrast to the assumption in part e, assume that the Speaker Division can rent the facilities in which the 100,000 pairs of speakers are produced for E200,000. Determine lower limit of the transfer price. **(4 marks)**

Total (50 Marks)

QUESTION 2

As of January 1, 2009, Johnson Metal Desk Company is considering a design change in its standard metal desk. The company has determined that the design change would reduce the number of metal screws required in production by 16 per desk. Installation of each screw requires 15 seconds of labor time. The average labor rate is E18 per hour and each screw costs E.05. The firm has estimated production and sales of the standard metal desk as follows over the remainder of the product's life cycle:

Year	Production and Sales Volume
1994	2,000
1995	3,500
1996	3,000
1997	2,000
1998	1,200

The company would be required to incur setup costs of an unknown amount in order to execute the design change. The company requires a 4 year payback period, uses a 12% discount rate, and depreciates all property (including setup costs) using the straight-line method.

- Determine the annual cost savings associated with the design change.
(5 Marks)
 - Based on the 12% discount rate, what is the maximum amount the company could spend on the setup costs and still meet its required return? And still meet its required payback period?
(5 Marks)
 - Assuming the setup will cost E14,000, determine the net present value.
(5 Marks)
 - Based on your calculations in part c, determine the profitability index.
(5 Marks)
 - Based on a setup cost of E15,000, compute the accounting rate of return.
(5 Marks)
- Total (25 Marks)**

QUESTION 3

Billy's Charter Boats operates a fleet of small power boats on Lake Michigan. Billy is interested in developing a model that will reliably predict his labor costs (a mixed cost). To this end, he has gathered the following monthly data from 2009 records on labor costs and two potential productive bases: number of charters, and gross receipts:

MONTH	LABOR COSTS	NUMBER OF CHARTERS	GROSS RECEIPTS
January	E 8,000	5	E 6,000
February	9,200	7	9,000
March	12,000	11	13,000
April	14,200	14	18,000
May	18,500	20	30,000
June	28,000	31	41,000
July	34,000	50	60,000
August	30,000	45	50,000
September	24,000	40	48,000

REQUIRED:

- Prepare a scatter-graph for labor costs using each of the alternative prediction bases. **(5 Marks)**
- Using the least squares method, compute the fixed and variable cost elements of labor costs for both prediction bases. **(20 Marks)**

Total (25 Marks)

QUESTION 4

The following schedule for Ngranono Ltd contains the activities and variable time estimates necessary to produce motorbikes:

Activity	Activity Representation	Weeks		
		a	m	b
A	1-2	4	6	7
B	1-3	2	3	5
C	1-4	5	6	7
D	3-4	1	2	3
E	3-5	1	2	4
F	2-5	2	4	6
G	4-5	1	3	4
H	2-6	7	8	9
I	5-6	1	2	3

Using the above information,

- (a) draw a presentation of the PERT network **(10 Marks)**
- (b) compute the time necessary to complete an activity, **(10 Marks)**
- (c) identify the critical path. **(5 Marks)**

Total (25 Marks)

Table 3.1 Present Value of \$1

Years <i>N</i>	5%	6%	8%	10%	12%	14%	16%	18%	20%	22%	24%	25%
1	0.952	0.943	0.926	0.909	0.893	0.877	0.862	0.847	0.833	0.820	0.806	0.800
2	0.907	0.890	0.857	0.826	0.797	0.769	0.743	0.718	0.694	0.672	0.650	0.640
3	0.864	0.840	0.794	0.751	0.712	0.675	0.641	0.609	0.579	0.551	0.524	0.512
4	0.823	0.792	0.735	0.683	0.636	0.592	0.552	0.516	0.482	0.451	0.423	0.410
5	0.784	0.747	0.681	0.621	0.567	0.519	0.476	0.437	0.402	0.370	0.341	0.328
6	0.746	0.705	0.630	0.564	0.507	0.456	0.410	0.370	0.335	0.303	0.275	0.262
7	0.711	0.665	0.583	0.513	0.452	0.400	0.354	0.314	0.279	0.249	0.222	0.210
8	0.677	0.627	0.540	0.467	0.404	0.351	0.305	0.266	0.233	0.204	0.179	0.168
9	0.645	0.592	0.500	0.424	0.361	0.308	0.263	0.225	0.194	0.167	0.144	0.134
10	0.614	0.558	0.463	0.386	0.322	0.270	0.227	0.191	0.162	0.137	0.116	0.107
11	0.585	0.527	0.429	0.350	0.287	0.237	0.195	0.162	0.135	0.112	0.094	0.086
12	0.557	0.497	0.397	0.319	0.257	0.208	0.168	0.137	0.112	0.092	0.076	0.069
13	0.530	0.469	0.368	0.290	0.229	0.182	0.145	0.116	0.093	0.075	0.061	0.055
14	0.505	0.442	0.340	0.263	0.205	0.160	0.125	0.099	0.078	0.062	0.049	0.044
15	0.481	0.417	0.315	0.239	0.183	0.140	0.108	0.084	0.065	0.051	0.040	0.035
16	0.458	0.394	0.292	0.218	0.163	0.123	0.093	0.071	0.054	0.042	0.032	0.028
17	0.436	0.371	0.270	0.198	0.146	0.108	0.080	0.060	0.045	0.034	0.026	0.023
18	0.416	0.350	0.250	0.180	0.130	0.095	0.069	0.051	0.038	0.028	0.021	0.018
19	0.396	0.331	0.232	0.164	0.116	0.083	0.060	0.043	0.031	0.023	0.017	0.014
20	0.377	0.312	0.215	0.149	0.104	0.073	0.051	0.037	0.026	0.019	0.014	0.012

Table 3.2 Present Value of \$1 Received Annually for *N* Years

Years <i>N</i>	5%	6%	8%	10%	12%	14%	16%	18%	20%	22%	24%	25%
1	0.952	0.943	0.926	0.909	0.893	0.877	0.862	0.847	0.833	0.820	0.806	0.800
2	1.859	1.833	1.783	1.736	1.690	1.647	1.605	1.566	1.528	1.492	1.457	1.440
3	2.723	2.673	2.577	2.487	2.402	2.322	2.246	2.174	2.106	2.042	1.981	1.952
4	3.546	3.465	3.312	3.169	3.037	2.914	2.798	2.690	2.589	2.494	2.404	2.362
5	4.330	4.212	3.993	3.791	3.605	3.433	3.274	3.127	2.991	2.864	2.745	2.689
6	5.076	4.917	4.623	4.355	4.111	3.889	3.685	3.498	3.326	3.167	3.020	2.951
7	5.786	5.582	5.206	4.868	4.564	4.288	4.039	3.812	3.605	3.416	3.242	3.161
8	6.463	6.210	5.747	5.335	4.968	4.639	4.344	4.078	3.837	3.619	3.421	3.329
9	7.108	6.802	6.247	5.759	5.328	4.946	4.607	4.303	4.031	3.786	3.566	3.463
10	7.722	7.360	6.710	6.145	5.650	5.216	4.833	4.494	4.192	3.923	3.682	3.571
11	8.306	7.887	7.139	6.495	5.937	5.453	5.029	4.656	4.327	4.035	3.776	3.656
12	8.863	8.384	7.536	6.814	6.194	5.660	5.197	4.793	4.439	4.127	3.851	3.725
13	9.394	8.853	7.904	7.103	6.424	5.842	5.342	4.910	4.533	4.203	3.912	3.780
14	9.899	9.295	8.244	7.367	6.628	6.002	5.468	5.008	4.611	4.265	3.962	3.824
15	10.380	9.712	8.559	7.606	6.811	6.142	5.575	5.092	4.675	4.315	4.001	3.859
16	10.838	10.106	8.851	7.824	6.974	6.265	5.669	5.162	4.730	4.357	4.033	3.887
17	11.274	10.477	9.122	8.022	7.120	6.373	5.749	5.222	4.775	4.391	4.059	3.910
18	11.690	10.828	9.372	8.201	7.250	6.467	5.818	5.273	4.812	4.419	4.080	3.928
19	12.085	11.158	9.604	8.365	7.366	6.550	5.877	5.316	4.844	4.442	4.097	3.942
20	12.462	11.470	9.818	8.514	7.469	6.623	5.929	5.353	4.870	4.460	4.110	3.954