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THE INSTITUTE OF CHARTERED ACCOUNTANTS OF SRI LANKA

SCHOOL OF ACCOUNTING AND BUSINESS
BSc. (APPLIED ACCOUNTING) GENERAL / SPECIAL DEGREE PROGRAMME

YEAR I SEMESTER II – INTAKE VIII (GROUP A)
END SEMESTER EXAMINATION – JANUARY 2018

AFM 10430 Intermediate Management Accounting

Date	:	22nd January 2018
Time	:	1.00 p.m. - 4.00 p.m.
Duration	:	Three (03) hours

Instructions to Candidates:

- Write the Index Number in the space provided at the top of this sheet. Do not write your name anywhere in this question paper.
- This paper consists of three sections (A, B and C).
- Section A – Answer **ALL** questions in the question paper itself
  Section B – **Question No. 02** is **Compulsory**
  Section C – Answer **Three (03)** Questions only
- The total marks for the paper is 100.
- The marks for each question are shown in brackets.
- Use of scientific calculator is allowed.
- Answers should be written neatly and legibly

Section A

Question No. 01

1. The principal budget factor is the
   a. factor which limits the activities of the organisation and is often the starting point in budget preparation.
   b. budgeted revenue expected in a forthcoming period.
   c. main budget into which all subsidiary budgets are consolidated.
   d. over estimation of revenue budgets and underestimation of cost budgets, which operates as a safety factor against risk.

2. The budgeted contribution for R Limited for the last month was Rs.32,000. The following variances were reported.

Variance	**Rs.**	
Sales volume contribution	800	adverse
Material price	880	adverse
Material usage	822	favourable
Labour efficiency	129	favourable
Variable overhead efficiency	89	favourable

No other variances were reported for the month.

The actual contribution earned by R Limited for the last month is Rs. ☐

3. When calculating the material purchases budget, the quantity to be purchased equals to;
   a. material usage + materials closing inventory - materials opening inventory
   b. material usage - materials closing inventory + materials opening inventory
   c. material usage - materials closing inventory - materials opening inventory
   d. material usage + materials closing inventory + materials opening inventory

4. The following details have been extracted from the payables records of X company:

Invoices paid in the month of purchase	25%
Invoices paid in the first month after purchase	70%
Invoices paid in the second month after purchase	5%

Purchases for July to September are budgeted as follows:

July	Rs.250, 000
August	Rs. 300,000
September	Rs. 280,000

For suppliers paid in the month of purchase, a settlement discount of 5% is received.

The amount budgeted to be paid to suppliers in September is Rs.

5. Peach Co's latest results are as follows:

	Rs. 000
Profit before interest and taxation	2,500
Profit before taxation	2,250
Profit after tax	1,400

In addition, extracts from its latest statement of financial position are as follows:

	Rs. 000
Equity	10,000
Non-current liabilities	2,500

What is Peach Co's return on capital employed (ROCE)?

a. 14%
b. 18%
c. 20%
d. 25%

(02 Marks X 05 = 10 Marks)

Section B

<u>Question No. 02</u> – Compulsory

Live Ltd produces two products namely as R and N. You are given following information.

1) Budgeted direct cost per unit for two products for the year 2017 are as follows,

	R	**N**
	Rs.	Rs.
Material A – 2 Kg at Rs.200 per Kg	400	
2.5 Kg at Rs.200 per Kg		500
Material B – 1.5 Kg at Rs. 300 per Kg	450	
2 Kg at Rs. 300 per Kg		600
Direct Labour – 3 hours at Rs. 600 per hour	1800	
2 hours at Rs. 600 per hour		1200

2) Production overhead is made up as follows;

	Rs.
Electricity	10,000
Depreciation	20,000
Miscellaneous	<u>120,000</u>
	150,000

Production overhead cost is absorbed into products using a direct labour hour absorption rate.

3) Sales

The sales director has forecasted that sales of R and N will be 6,000 and 2,000 units, respectively, during the year 2017. The selling prices will be:

R Rs. 3,500

N Rs. 3,900

4) Selling and distribution expense for the year amounts to Rs. 100,000 and it includes a depreciation of Rs. 20,000.

5) Corporate tax is charged at the rate of 30% per annum.

6) Inventory

- **Finished good inventory to be as follows;**

Opening inventory (as at 1st January 2017)	- Product R	1000 units
	Product N	300 units
Closing inventory (as at 31st December 2017)	Product R	1500 units
	Product N	500 units

- **Raw material inventories**

Opening inventory – Material A	2,500 Kg
Material B	2,000 Kg
Closing inventory - Material A	2,000 Kg
Material B	2,500 Kg

7) Budgeted cash flows for four quarters of 2017 is as follows;

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
	Rs.	Rs.	Rs.	Rs.
Receipts				
Sales revenue	6,000,000	6,000,000	7,000,000	9,000,000
Machine disposal		750,000		
Payments				
Materials	1,510,000	2,500,500	1,900,000	1,400,000
Direct wages	3,585,000	3,585,000	3,585,000	3,585,000
Electricity	1,000	2,000	500	4,000
Other production overhead	15,000	25,000	30,000	50,000
Machine purchase			1,200,000	
Selling and distribution expenses	20,000	20,000	20,000	20,000
Taxation			10,000	

8) Book value of the machine disposed was Rs. 1,000,000 and it had an accumulated depreciation of Rs. 100,000.

10) Budgeted balance sheet as at 1st January 2017 is as follows

Budgeted Balance sheet as at 01st January 2017			
	Cost	**Acc. Dep**	**NBV**
Non-Current Assets			
Land	4,000,000	-	4,000,000
Building and Equipment	6,000,000	650,000	5,350,000
	10,000,000	650,000	9,350,000
Current Assets			
Inventories			
Raw material			
A	500,000		
B	600,000	1,100,000	
Finished goods			
R	2,371,136		
N	986,948	3,358,084	
Receivables		9,500,000	13,958,084
Total Assets			23,308,084
Current Liabilities			
Payables	2,308,084		
Accrued electricity	3,000		
Taxation	10,000		
Cash at bank	100,000	2,421,084	
Noncurrent liability			
15 year Bank loan		5,887,000	
Equity			
Share Capital	13,000,000		
Retained earnings	2,000,000	15,000,000	
Total equity and Liability			23,308,084

You are required to prepare following budgets:

a. Sales budget

(02 Marks)

b. Production budget

(03 Marks)

c. Material usage budget

(02 Marks)

d. Material purchase budget

(02 Marks)

e. Labour budget

(02 Marks)

f. Production overhead budget

(02 Marks)

g. Production cost budget

(02 Marks)

h. Cash budget

(05 Marks)

i. Budgeted Income statement and Balance Sheet

(10 Marks)

(Total 30 Marks)

Section C

Answer **only** **<u>Three (03)</u>** questions

Question No. 03

a. Explain the difference between real rate of return and nominal rate of return and outline the circumstances in which the use of each would be appropriate when appraising capital projects under inflationary conditions.

(05 Marks)

b. Diamond Co has just developed a new product to be called Rubi and is now considering whether to put it into production. The following information is available.

i. Costs incurred in the development of Rubi will amount to Rs.480, 000.

ii. Production of Rubi will require the purchase of new machinery at a cost of Rs. 2,400,000 payable immediately. This machinery is specific to the production of Rubi and will be obsolete and valueless when that production ceases. The machinery has a production life of four years and a production capacity of 30,000 units per annum.

iii. Production costs for one unit of Rubi (at year 1 prices) are estimated as follows.

	Rs.
Variable materials	8.00
Variable labour	12.00
Variable overheads	12.00

In addition, fixed production costs (at year 1 prices), including straight line depreciation on plant and machinery, will amount to Rs.800, 000 per annum.

iv. The selling price of Rubi will be Rs. 80 per unit (at year 1 prices). Demand is expected to be 25,000 units per annum for the next four years.

v. The inflation rate will be 5% per annum for the next four years and the selling price of Rubi is expected to increase at the same rate. Annual inflation rates for production costs are expected to be as follows.

	%
Variable materials	4
Variable labour	10
Variable overheads	4
Fixed costs	5

vi. The company's weighted average cost of capital in nominal terms is expected to be 15%.

You are required to;

Calculate the net present value of Rubi production and advise the directors of Diamond Co whether it should produce Rubi on the basis of the information above.

(15 Marks)

(Total 20 Marks)

<u>Question No. 04</u>

a. Many research findings suggest that *"annual budgeting results in improving financial performance of organizations."*

Briefly explain four objectives of budgeting.

(04 Marks)

b. According to Hope and Fraser ((2003), *"traditional budgeting is inherently flawed"*.

Explain five criticisms against traditional budgeting systems.

(10 Marks)

c. Organizations use many budgeting types in deploying traditional budgeting. Incremental budgeting, zero-based budgeting and rolling budgets are the most popular among them. Briefly explain the difference between zero-based and incremental budgeting with pros and cons of each method.

(06 Marks)

(Total 20 Marks)

Question No. 05

a. Explain the difference between *capital expenditure* and *revenue expenditure*, using an example

(04 Marks)

b. Briefly explain the term "*investment appraisal*" and state two types of investment appraisal techniques.

(04 Marks)

c. Explain pros and cons of the following investment appraisal methods.

   i. Payback period

   ii. Return on Capital Employed (ROCE)

   iii. Internal Rate of Return (IRR) (06 Marks)

d. Differentiate between *conventional* and *non-conventional* cash flows and describe the limitations of using IRR method of investment appraisal when a project consists of non-conventional cash flows.

(06 Marks)

(Total 20 Marks)

Question No. 06

a. Explain the following types of standards

i. Ideal Standards

ii. Attainable Standards

(04 Marks)

b. A company produces and sells one product and the standard cost for one unit is as follows.

	Rs.
Direct material A – 10 kilograms at Rs.20 per kg	200
Direct material B – 5 litres at Rs.6 per litre	30
Direct wages – 5 hours at Rs.6 per hour	30
Fixed production overhead	50
Total standard cost	310

The fixed overhead included in the standard cost is based on an expected monthly output of 900 units. Fixed production overhead is absorbed on the basis of direct labour hours.

During April the actual results were as follows.

Production	800 units
Material A	7,800 kg used, costing Rs.159, 900
Material B	4,300 litres used, costing Rs.23, 650
Direct wages	4,200 hours worked for Rs. 24,150
Fixed production overhead	Rs. 47,000

You are required to:

i. Calculate material price variance

ii. Calculate material usage variance

iii. Calculate labour rate variance

iv. Calculate labour efficiency variance

v. Calculate fixed overhead expenditure variance

vi. Calculate fixed overhead volume variance

(12 Marks)

vii. Explain the possible reasons for the above variances.

(04 Marks)

(Total 20 Marks)

FORMULAE SHEET

SALES VARIANCE

Actual Quantity Sold x Actual Price	(AQ AP)	Price Variance
Actual Quantity Sold x Standard Price	(AQ SP)	
Actual Quantity Sold x Standard Margin	(AQ SM)	Volume Variance
Budget Quantity x Standard Margin	(BQ SM)	

MATERIAL VARIANCE

Actual Quantity Bought x Actual Price	(AQ AP)	Price Variance
Actual Quantity Bought x Standard Price	(AQ SP)	
Actual Quantity Used x Standard Price	(AQ SP)	Usage Variance
Standard Quantity Used x Standard Price (for actual production)	(SQ SP)	

LABOUR VARIANCE

Actual Hours x Actual Rate	(AH AR)	Rate Variance
Actual Hours x Standard Rate	(AH SR)	
Actual Hours x Standard Rate	(AH SR)	Efficiency Variance
Standard Hours x Standard Rate	(SH SR)	

FIXED OVERHEAD VARIANCE

Actual Cost	(AH AR)	Expenditure Variance	
Budgeted Hours x Standard Rate	(BH SR)		
Budgeted Hours x Standard Rate	(BH SR)	Capacity Variance	Volume Variance
Actual Hours x Standard Rate	(AH SR)		
Standard Hours x Standard Rate (for actual production)	(SH SR)	Efficiency Variance	

VARIABLE OVERHEAD VARIANCE

Actual Hours Worked x Actual Rate	(AH AR)	Expenditure Variance
Actual Hours Worked x Standard Rate	(AH SR)	
Actual Hours Worked x Standard Rate	(AH SR)	Efficiency Variance
Standard Hours Worked x Standard Rate (for actual production)	(SH SR)	

PRESENT VALUE TABLE

Periods (n)	Interest rates (r)									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149

Periods (n)	Interest rates (r)									
	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

Annuity table

Periods (n)	Interest rates (r)									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20	18.046	16.351	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514

Periods (n)	Interest rates (r)									
	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	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	7.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870