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Serial No.....

## Institute of Certified Management Accountants of Sri Lanka

### Managerial Level October 2017 Examination

**Examination Date :** 4<sup>th</sup> November 2017      **Number of Pages :** 06  
**Examination Time:** 9.30 a.m. – 12.30 p.m.      **Number of Questions:** 05

#### **Instructions to candidates:**

1. Time allowed is **three (3) hours.**
2. Total: **100 Marks.**
3. Answer **all** questions in Part I and any **three (3)** questions from Part II.
4. Candidates are allowed to use non-programmable calculators.
5. The answers should be in **English Language.**

<u>Subject</u>	<u>Subject Code</u>
<b>Integrative Management Accounting</b>	<b>(IMA / ML 1 - 301)</b>

#### **PART I**

#### **Question No. 01 (40 Marks)**

ABC manufacturing produces two items in its Plant, namely, Turff Stuff and Ruff Stuff. Since inception, ABC manufacturing has used only one manufacturing-overhead cost pool to accumulate costs. Overhead has been allocated to products based on direct-labor hours. Until recently, ABC manufacturing was the sole producer of Ruff Stuff and was able to dictate the selling price. However, a competitor began marketing a comparable product at a price below the cost assigned by ABC manufacturing. Market share has declined rapidly, and management must now decide whether to meet the competitive price or to discontinue the product line. Recognizing that discontinuing the product line would place an addition burden on its remaining product, Tuff Stuff, management is using activity- based costing to determine if it would show a different cost structure for the two products. Management no longer viewed the management accounting system merely as a means of costing its products. Instead, management came to view the firm's management accounting function as a cost management system.

The two major indirect costs for manufacturing the products are power usage and setup costs. Most of the power is used in fabricating, while most of the setup costs are required in assembly. The setup costs are predominantly related to the Tuff Stuff product line.

The plant manager, Kumudu Dias, has decided to separate the Manufacturing Department costs into two activity cost pools as follows:

Fabricating: machine hours will be the cost driver

Assembly: number of setups will be the cost driver

Amali Dias, the controller, has gathered the following information.

	Total (Rs.)	Product Line	
		Tuff Stuff	Ruff Stuff
Number of units		20,000	20,000
*Direct labor hours (hours per unit)		2	3
Total direct labor cost	2,400,000		
Direct material (Rs. Per Unit)		15	9

<b>Budgeted overhead:</b>			
Indirect labor	72,000		
Fringe benefits	15,000		
Indirect material	93,000		
Power	540,000		
Setup	225,000		
Quality assurance	30,000		
Other utilities	30,000		
Depreciation	45,000		
*Direct labor hourly rate is the same in both departments			

## Manufacturing Department

Cost Structure after Separation of Costs into Activity Costs Pools

		<b>Fabricating</b>	<b>Assembly</b>
Direct – labour cost	(%)	74	26
Direct material	(%)	100	0
Indirect labour	(%)	76	24
Fringe benefits	(%)	80	20
Indirect material	(Rs.)	60,000	33,000
Power	(Rs.)	480,000	60,000
Setup	(Rs.)	15,000	210,000
Quality assurance	(%)	80	20
Other utilities	(%)	50	50
Depreciation	(%)	78	22

Cost Driver:

	<b>Product Line</b>	
	<b>Tuff Stuff</b>	<b>Ruff Stuff</b>
Machine hours per unit	4.4	6.0
Setups	1,000	272

**You are required to:**

- Assigning overhead based on direct-labor hours, calculate the following:
  - Total budgeted cost of the Manufacturing Department.
  - Unit cost of Tuff Stuff and Ruff Stuff. **(08 Marks)**
- After separation of overhead into activity cost pools, compute the total budgeted cost of each department: fabricating and assembly. **(06 Marks)**
- Using activity –based costing, calculate the unit costs for each product. **(04 Marks)**
- Discuss how a decision regarding the production and pricing of Ruff Stuff will be affected by the results of your calculations in (part a) the preceding requirements. **(06 Marks)**
- Discuss several key issues in activity base costing at the implementation stage. **(06 Marks)**
- State the objectives cost management system. **(06 Marks)**
- Differentiate between cost plus pricing and target pricing. **(04 Marks)**

**(Total 40 Marks)**

End of Part I

## PART II

Answer any three (3) questions

### Question No. 02 (20 Marks)

ABC Limited, a multi-national employment agency with a turnover of Rs.637 million is considering whether or not to open a call centre at its current premises. The management team have significant contacts promised from current clients and can acquire the software to operate the centre successfully. Estimates of both client and call volumes for the next three years are as follow:

#### Projected Clients Calls and Duration:

Year	Clients	Average Calls and Duration Per Client	
		Calls	Duration (Minutes)
2018	12	40,000	5
2019	16	45,000	4
2020	24	50,000	4

It is expected that three-quarters of all clients will prefer to be billed at a rate per call for the next three years. The proposed charge rates per call will be:

#### Charge per Call (Rs.)

Year	Peak	Off-Peak
2018	1.20	1.00
2019	1.30	0.90
2020	1.35	0.90

The remaining clients would prefer an initial annual fixed cost of Rs.100,000, uplifted by 10% per annum thereafter. ABC Limited will employ sufficient staff at a peak rate of Rs.13 per hour and an off-peak rate of €15 per hour to handle all calls. This labour cost is expected to increase by Rs.1 for hour for both peak and off-peak per year after the first year of the proposal. The split of expected call times is:

#### Peak - Off Peak Split (%)

Year	Peak	Off-Peak
2018	50	50
2019	40	60
2020	40	60

The initial costs of running the call centre will be Rs.2,500/- per month to cover rates and insurance. This cost is likely to increase by Rs.3,000/- per year in each subsequent year thereafter. The cost paid by ABC Limited per call minute will be Rs. 1.20 peak and half that rate for non-peak usage, both being fixed for three years. Three new managers will have to be recruited. They will be paid an annual flat salary of Rs.20,000/- each increasing by 10% per annum plus an annual commission to be shared between them of Rs.3,000/- per client plus Rs. 0.30 per call hour managed. At the outset of the proposal, each manager will require training in Singapore prior to commencing the call centre. The training cost fee will be Rs.10,000/- each. ABC Limited will pay half of this cost plus Rs 4,800 per manager for travel costs. Managers will not be paid a salary when training.

ABC Limited will have to make modifications to its current premises costing Rs.300,000/- plus a fit-out-cost of Rs.10,000/- for each manager's office plus Rs.2,000/- for each of 10 workstations. ABC Limited expects all investments to deliver a net present value after three years of at least Rs.100,000/- when discounted at 10% pre-tax. The software will initially cost Rs.80,000/- to purchase plus a fixed annual upgrade fee of Rs.120,000/-, first payable in the second year following the initial purchase.

#### You are required to:

- Calculate net cash flows. **(08 Marks)**
- Calculate the Net Present Value using a cost of capital of 10%. **(06 Marks)**
- Evaluate three non-financial factors G Limited should consider before making a final decision on this proposed call centre investment. Recommend whether ABC limited should invest in the call centre and justify your recommendation. **(06 Marks)**

**(Total 20 Marks)**

**Question No. 03 (20 Marks)**

AOC plc budgets to sell three products and has provided you with the following selling prices and variable costs:

Product	Sales Units	Selling price per unit (Rs.)	Variable cost per unit (Rs.)
A	800,000	12	7
B	1,000,000	11	6
C	1,100,000	8	4

Annual fixed costs are budgeted at Rs. 8,000,000/-

**You are required to:**

- Calculate the total budgeted profit. **(03 Marks)**
  - Calculate the contribution / sales ratio for each product. **(03 Marks)**
  - Calculate the total breakeven sales volume and sales revenue. **(05 Marks)**
  - How many units of each product and in total would ABC plc need to sell to earn a total profit of Rs.4,200,000/-? **(04 Marks)**
  - Management is in the opinion deciding whether or not to spend an extra Rs.300,000/- on the advertising of Product 'C'. It is considering reducing its selling price to 90% of the current price which will result in an increase in sales of 30% additional units. Advise whether or not it is financially worthwhile spending Rs.300,000/- on the advertising. **(05 Marks)**
- (Total 20 Marks)**

**Question No. 04 (20 Marks)**

RK Company manufactures doors for the home-building industry. The door frames are produced in the Frame Division. The frames are then transferred to the Finishing Division, where rest part of work performed so as to complete the product.

The Frame Division can also sell frames directly to custom home builders, who install the glass and hardware. The sales price of a frame is Rs.16,000/-. The Finishing Division sells its finished product for Rs.38,000/-. The market for both frame and finished doors exhibit perfect competition. The standard cost of the door is detailed as follows.

	Frame Division (Rs.)	Finished division (Rs.)
Direct Material	3,000	6,000 (not including transfer price)
Direct Labor	4,000	3,000
Variable overhead	6,000	6,000

**You are required to:**

- Explain the concept of goal congruence. **(03 Marks)**
  - Briefly explain circumstance where transfer price is used. **(04 Marks)**
  - Use the general rule to compute the transfer price assuming no excess capacity in the Frame Division. **(04 Marks)**
  - Calculate the transfer price if it is based on standard variable cost with a 10% markup assuming no excess capacity. **(04 Marks)**
  - Use the general rule to compute the transfer price for the door assuming under excess capacity in the Frame Division. **(05 Marks)**
- (Total 20 Marks)**

**Question No. 05 (20 Marks)**

- (a) The rise of global competition, the introduction of JIT production methods and flexible manufacturing systems, the goal of continuous process improvement, and the emphasis on product quality are dramatically changing the manufacturing environment.

What are the implications of these changes for the role of standard costing systems? **(08 Marks)**

- (b) Managers of the most organizations do not rely on either financial or nonfinancial performance measures alone. They recognize the financial performance measures summarize results of past actions. These measures are important to a firm's owners, creditors, and employees, and so forth. Nonfinancial measures concentrates on current activities, which will be the drivers of future financial performance.

Briefly explain the concept of the Balanced Scorecard and the reasoning behind it. **(06 Marks)**

- (c) In today's manufacturing environment, operational performance measures are taking on ever - greater importance. Under the philosophy of activity-based management, the goal is to focus on continually improving each activity. As a result, the emerging operational control measures focus on the likely activities in which the organization engages.

State the operational performance measures appropriate for manufacturing environment.

**(06 Marks)**

**(Total 20 Marks)**

End of Part II

## Present value table

Present value of 1.00 unit of currency, that is  $(1 + r)^{-n}$  where  $r$  = interest rate;  $n$  = number of periods until payment or receipt.

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	0.705	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

End of Question Paper