 Serial No.……

Institute of Certified Management Accountants of Sri Lanka

Managerial Level
May 2015 Examination

Examination Date : 23rd May 2015 **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. The answers should be in **English Language.**

Subject	Subject Code
Integrative Management Accounting	**(IMA / ML 1 - 301)**

PART I

Question No. 01 (40 Marks)

Box Design (PVT) Ltd manufactures an exclusive range of high quality office chairs. Using a modern, streamlined production process the company produces three types of luxury chairs: (1) The Classic, (2) Prestige and (3) Ultra. There are two main production departments, the forming department, which is highly mechanized and the finishing department, which is labour intensive.

The company has been in operation for ten years and every year sales have increased. In recent years a greater choice of design features have been offered to customers such that the finished chair, especially the Ultra, is highly bespoke. The current selling price of the chairs was established two years ago based on a markup of approximately 30% on product cost.

For the first time since it commenced trading, profits last year were lower than expected and management were concerned that this may be a continuing trend. An initial investigation raised questions regarding the overhead costing system used by the company. To remain competitive in today's global market, it is essential to improve continually. Thus, management of Box Design (PVT) Ltd has understood that the improvement needs to apply across the spectrum of business activity: from product design and quality, through production operations and cost management, to customer service. According to Managing Director view of Box Design (PVT) Ltd, one of the compelling focus areas is the price down/cost down concept to be implemented to get the competitive advantage.

Currently, the company uses a traditional overhead costing approach, absorbing overheads based on either machine hours or labour hours as appropriate. Details relating to the current year are provided below:

	Classic (Rs.)	Prestige (Rs.)	Ultra (Rs.)
Selling price per chair	875	1,050	1,200
Direct material per chair	225	270	315
Direct labour per chair	115	138	161
Direct labour hours per chair	5	6	7
Machine hours per chair	10	11	13
Total number of chairs produced	1,750	1,000	600

In an attempt to curb the reduction in profits, the company is considering changing to an activity based costing approach for absorbing overheads and has compiled the following information:

	Forming (Rs.)	Finishing (Rs.)	Total (Rs.)
Production overhead costs	828,729	400,982	1,229,711
Breakup of the production overhead costs according to activities			
Purchasing			125,175
Set up costs			512,120
Machining			205,095
Quality control			387,321

You are required to:

(a) Explain the concept of Continuous Improvement. **(04 Marks)**

(b) Explain Cost Management System. **(04 Marks)**

(c) List **six (6)** other factors (other than cost of the product) which influence price of a chair. **(06 Marks)**

(d) Differentiate between current pricing practice of the company and target pricing. **(05 Marks)**

(e) Calculate the total product cost for each of the three types of office chair using:

(i) The costing approach currently used by Box Design (PVT) Ltd. **(06 Marks)**

(ii) Activity based costing. **(08 Marks)**

(f) Compare and comment on your answers in (e) (i) and (e) (ii) above, providing recommendations to improve the profitability of Box Design (PVT) Ltd. **(07 Marks)**

(Total 40 Marks)

End of Part I

PART II

Answer any three (3) questions

Question No. 02 (20 Marks)

(a) You are a trainee management accountant with ABC (PVT) Limited, a company that manufactures various types of luggage and accessories. The company is working at 80% of full capacity and over the past year has been approached to tender for a variety of short term contracts. The managing director of ABC, a production engineer, has recently read an article about relevant costing and has asked for your assistance in explaining how this type of costing may be used. In particular, he is interested in gaining a clear understanding of key terms such as relevant costs, sunk costs and opportunity costs.

You are required to prepare a memorandum for the Managing Director of ABC**:**

(i) Outlining the main principles of relevant costing including definitions (you should provide examples to illustrate your answer where appropriate). **(08 Marks)**

(ii) Briefly discuss the importance of considering qualitative factors in relevant costing, giving **three (3)** examples of such factors. **(08 Marks)**

(b) A local CBS station has decided to produce a TV series on state-of-the-art manufacturing. The director of the TV series, Mr. Asoka Jayamanna, is currently attempting to analyze some of the projected costs for the series. Mr. Asoka intends to take a TV production crew on location to shoot various high-tech-manufacturing scenes as they occur. If the four-week series is shown in the 8.00 - 9.00 p:m. prime-time slot, the station will have to cancel a wildlife show that is currently scheduled. Management projects a 10% viewing audience for the wild life show, and each 1% is expected to bring in donations of Rs.200,000/-. In contrast, the manufacturing show is expected to be watched

However, each 1% of the viewership will likely generate only Rs.100,000 in donations. If the wildlife show is cancelled, it can be sold to network television for Rs.500,000/-.

You are required to advise Mr. Asoka Jayamanna what is to be the most suitable decision based on provided information. **(04 Marks)**

(Total 20 Marks)

Question No. 03 (20 Marks)

Shanka Engineering Ltd. manufactures a wide range of products to customers' specifications. The following is a summary of the company's actual results for 2014.

	(Rs.'000)
Sales	800
Direct labour	(300)
Direct material	(250)
Fixed overheads	(150)
Profit	100

The Managing Director noted that actual sales were 20% less than budgeted sales. He was not unduly surprised by this fact because it reflected an economic recession which affected the entire engineering sector during 2014.

However, the Managing Director was very concerned that actual profits amounted to less than half of budgeted profits. He called on the Financial Controller to investigate the reasons why the decline in profits was so severe. Among the reasons identified by the Financial Controller were the following:

- In order to minimize the decline in sales volumes, many sales staff departed from the company's normal pricing structure (based on full cost plus a mark-up) and instead priced many jobs on the basis of variable cost plus a mark-up.
- The behaviour of the direct labour cost function was different from what was expected. Although it had always been assumed that direct labour is a strictly variable cost in this company, the Financial Controller's analysis revealed that (when production declines) labour costs decline at a much slower rate.

You are required to:

(a) On the basis of the actual results for 2014, and assuming that direct labour is a strictly variable cost, calculate the breakeven point and the margin of safety. **(05 Marks)**

(b) Show how your answer to part (a) would differ if direct labour were assumed to be a strictly fixed cost. **(04 Marks)**

(c) The Managing Director has suggested that your answers to parts (i) and (ii) are of no practical benefit to him since direct labour cost is neither strictly fixed nor strictly variable in this company. Respond to this suggestion. Also, briefly explain an alternative technique which could be used in Shanka Engineering Ltd. to help management understand the relationship between sales levels and profits (calculations are not required). **(05 Marks)**

(d) The Marketing Manager of Boral Engineering Ltd. has suggested that, in future years, sales staff should not be allowed to depart from the company's normal pricing structure even where spare capacity exists. Explain two significant merits and two significant demerits of this suggestion. **(06 Marks)**

(Total 20 Marks)

Question No. 04 (20 Marks)

Frobisher Ltd. is a large company with several autonomous divisions. Each Divisional Manager is expected to achieve a Return on Investment (ROI) for his or her division of at least 12% per annum, which is the company's cost of capital. However, the actual ROI reported by various divisions in recent years have varied between 6% and 20%. The Managing Director of Frobisher Ltd. recently read an article which suggested that the use of ROI for divisional performance evaluation may encourage divisional managers to make investment decisions which are not in the company's best interests. He has asked for your assistance in evaluating the potential for such behaviour in this company and has provided you with the following four examples of investment proposals which are to be used for illustrative purposes:

Proposal A	Proposal B	Proposal C	Proposal D
Capital investment required Rs.600,000/-	Capital investment required Rs.150,000/-	Capital investment required Rs.350,000/-	This would involve selling off an existing investment which has a book value of Rs.420,000/- and generates an annual profit of Rs.58,800/-
Annual profit generated Rs.102,000/-	Annual profit generated Rs.31,500/-	Annual profit generated Rs.28,000/-	

You are required to:

(a) Taking each of these four proposals in turn, identify the circumstances in which Divisional Managers at Frobisher Ltd. are likely to make investment decisions which are not in the company's best interests. Support your answer with appropriate calculations. **(10 Marks)**

(b) Discuss whether the use of Residual Income (rather than ROI) for divisional performance evaluation purposes would eliminate the danger that Divisional Managers would make decisions in relation to the four proposals which are not in the company's best interests. Support your answer with appropriate calculations. **(06 Marks)**

(c) Explain what is meant by a "cost centre" approach to budgetary control, and explain the circumstances in which a cost centre approach is likely to be appropriate. **(04 Marks)**

(Total 20 Marks)

Question No. 05 (20 Marks)

Life Line Corporation manufactures fire extinguishers. One part used in all types of fire extinguishers is a unique pressure fitting that requires specialized tools that need to be replaced. Life Line's production manager has concluded that the only alternative to replacing these machine tools is to buy the pressure fitting from Manik Pipe and fitting Company. Life Line could buy the fitting for Rs.20/- if a minimum order of 70,000 fitting is placed annually. Life Line has used an average of 80,000 fittings over the past three years. The production manager believes this volume will remain constant for five more years.

Cost records indicate that unit manufacturing costs for the last several years have been as follows:

	Rs.
Direct material	14.00
Direct labour	3.70
Variable overhead	1.70
Fixed overhead	4.50

Depreciation accounts for two thirds of the fixed overhead. The balance is for other fixed overhead costs of the factory that require cash.

If the specialized tools are purchased, they will cost Rs.2,500,000/- and will have a disposal value of Rs.100,000/- after their expected life of five years. Straight-line depreciation is used for book purposes. Capital allowance is 20% on reducing balance. The company has a 40% tax rate, and management requires a 12% return on investment.

The sales representative for the manufacturer of the new tool stated, “The new tools will allow direct labour and variable overhead to be reduced by Rs.1.60/- per unit”. Data from another manufacturer using identified tools and experiencing similar operating conditions, except that annual production generally averages 110,000 units, confirm the direct-labour and variable-overhead savings. However, the manufacturer indicated that it experienced an increase in direct-material cost to Rs. 4.50/- per unit due to the higher quality of material that had to be used with the new tools.

You are required to:

(a) Explain the concept of mutually exclusive projects and independent projects by providing example. **(04 Marks)**

(b) Prepare a net present value analysis covering the life of the new specialized tools to determine whether management should replace the old tools or purchase the pressure fittings stating all the assumptions used. **(12 Marks)**

(c) Identify an additional factors management should consider before a decision is made to replace the tools or purchase the pressure fittings. **(04 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	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

End of Question Paper