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UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF MANAGEMENT AND FINANCE

Bachelor of Business Administration (Level I - Semester IV) Examination

December, 2016

ACT 1301- Management Accounting

Three (03) Hours

Answer any Five (05) Questions

Use of calculators is permitted

1.i. "Activity based costing (ABC) system provides more accurate cost information than traditional absorption costing system". Comment on this statement.

(03 Marks)

ii. Ceylon Products Ltd produces only 03 products, namely CP1, CP2 and CP3. Currently the company uses absorption costing system and overhead costs are charged to products based on direct labour hours. As the newly appointed Management Accountant of the company you are aware of limitations in traditional overhead absorption method. Accordingly, you have decided to switch from absorption method to an activity based costing method.

The direct materials and direct labour costs of each of three products are as follows.

Cost	Product		
	CP1	CP2	CP3
Direct material (Rs)	40	30	18
Direct labour (Rs)	26	18	9

The company's expected volume of production and requirements of labour hours per unit for 2017 are as follows.

Product	Units of production	Labour hours per unit
CP1	20,000	10
CP2	10,000	4
CP3	5,000	2

Budgeted total factory overhead data for 2017 have been identified under three activity cost pools as follows.

Activity Cost Pool	Overhead (Rs.)
Machine setup costs	480,000
Material purchasing costs	585,000
Processing costs	270,000
Total	**1,335,000**

All products are produced in batches of 100 units each. Activity cost drivers pertaining to each activity cost pool and respective activity cost driver usage is given below.

Activity Cost Driver	Driver Usage		
	CP1	**CP2**	**CP3**
Machine setups per batch	3	5	2
Number of purchase orders per batch	2	2	1
Processing time per unit (Minutes)	3	2	2

Based on the above information you are required to:

a. Calculate cost of each product using a plant-wide overhead rate based on direct labour hours.

(03 Marks)

b. Calculate activity cost driver rates for each activity cost pool.

(06 Marks)

c. Calculate cost of each product using activity based costing method.

(06 Marks)

d. Briefly comment on the differences between overhead traced on the absorption costing method and activity based costing method.

(02 Marks)

(Total 20 marks)

2. Saman is an ambitious young executive who has recently been appointed to the position of Financial Director of Wonder Plc, a small listed company. Wonder Plc has recently raised Rs.350,000 from a rights issue, and the directors are considering three projects namely, A,B and C for investment. All three projects (A, B and C) are being considered, require immediate acquisition of a special item of equipment costing Rs.350,000. However, due to the limitation of equipment, only one project can be undertaken at time. The equipment is disposed of at the end of any project undertaken with no scrap value.

Saman favours project C because it is expected to show the highest accounting profit in the third year believing this would influence the share prices to go up. However, in his report to the chairman that he recommends project C on the ground that it shows the highest internal rate of return. The following summary is taken from his report:

Net cash flows (Rs.000)

Project	Year									IRR %
	0	1	2	3	4	5	6	7	8	
A	-350	100	110	104	112	138	160	180	-	27.5
B	-350	40	100	210	260	160	-	-	-	26.4
C	-350	200	150	240	40	-	-	-	-	33.0

The Chairman of the company is accustomed to projects being appraised in terms of payback and accounting rate of return, and he is consequently suspicious of the use of internal rate of return as a method of project selection. Accordingly, the Chairman has asked for an independent report on the choice of project. The company's cost of capital is 20 per cent and a policy of straight-line depreciation is used to write off the cost of equipment in the financial statements.

You are required to:

i. Calculate payback period of each project.

(02 Marks)

ii. Calculate Accounting Rate of Return for each project.

(03 Marks)

iii. Prepare a report to the Chairman with supporting calculations indicating which project should be preferred by the ordinary shareholders of Wonder Plc.

(12 Marks)

iv. State other qualitative factors to be considered in selecting the best project for investment.

(03 marks)

Note: Present Value of Rs. 1 after n years at 20 % = Rs 1/ $(1+k)^n$

Years	1	2	3	4	5	6	7	8
Present Value Factor	0.833	0.694	0.579	0.482	0.402	0.335	0.279	0.233

(Total 20 Marks)

3. i. Orient Ltd manufactures and sells product "A" of which the budgeted and actual data are given below:

Budgeted data:

Direct Materials

Material Y	2 kg @ Rs.20/-	Rs.40/-
Material Z	1 kg @ Rs.120/-	Rs.120/-

The budgeted production quantity was 2500 units.

Actual data:

Production 1800 units

Direct Materials purchased and used

Y	5200 kg cost	Rs.72, 000/-
Z	2100 kg cost	Rs.200, 000/-

a. Based on the above information, you are required to calculate the Total Direct Material Price Variance and Total Direct Material Usage Variance.

(06 Marks)

b. As the Management Accountant of Orient Ltd, based on your calculations in (a) above, briefly outline the possible reasons for each of those variances.

(04 Marks)

ii. Hero Company is a wholesaler that sells its products to retailers throughout the country. Hero's headquarters is in Colombo. The company has adopted a regional structure with each region consisting of 3-5 sales territories. Each region has its own regional office and an office warehouse that distributes the goods directly to the customer. The South sales territory consists of three sales offices located in Galle, Matara and Hambantota.

The budgeted results for the next quarter are as follows:

(Rs.'000)

	Galle	Matara	Hambantota	Total
Cost of goods sold	920	1002	1186	3108
Salespersons' salaries	160	200	240	600
Sales office rent	60	90	120	270
Depreciation of sales office equipment	20	30	40	90
Apportionment of warehouse rent	24	24	24	72
Depreciation of warehouse equipment	20	16	22	58
Regional and headquarters costs	360	400	340	1100
Total costs assigned to each location	1564	1762	1972	5298
Reported profit/(loss)	236	238	(272)	202
Sales	1800	2000	1700	5500

Assuming that the above results are likely to be typical of future quarterly performance, should the Hambantota sales office be discontinued? Support your answer with appropriate calculations.

(10 Marks)

(Total 20 marks)

4. i. Company Alpha and Company Beta operate in the apparel industry with a high competitive position. The following budgeted sales and cost information are available pertaining to the year 2017 for each companies.

	Company	
	Alpha	**Beta**
Sales revenue	Rs.1,750,000	Rs.1,600,000
Variable costs	Rs.1,260,000	Rs. 128,000
Fixed costs	Rs. 140,000	Rs.1,152,000

a. Calculate the contribution margin ratio and operating leverage factor for each company.

(04 Marks)

b. Suppose sales revenue increases by 12 percent in each company, what will be the impact on the net profit in each company, and identify the reasons behind such an impact on net profit of each company.

(05 Marks)

c. Is high operating leverage always favorable to an organization? Justify your answer by using other results of the above two companies (*Hint: break-even point and margin of safety*).

(05 Marks)

ii. QR Ltd produces three products: Leather bag, Wool bag and Fabric bag. Information for these three products is as follows.

	Product		
	Leather bag	**Wool bag**	**Fabric bag**
Selling price per unit(Rs.)	900	850	600
Variable cost per unit(Rs.)	500	450	320
Expected sales Mix	0.55	0.30	0.15

Total annual fixed costs are Rs. 3,247,000. Assume that the sales mix remains the same at all levels of sales.

You are required to calculate,

a. How many units of each product must be sold to breakeven? (04 Marks)

b. How many units of each products must be sold to earn an annual profit of Rs.1,528,000

(02 Marks)

(Total 20 marks)

5. R & T Ltd produces and sells cupcakes to grocery stores, which are located in Colombo. The company is currently in the process of preparing its master budget for the next financial year, which ends on 31st December 2017. Information gathered by the Accountant during the planning process is given below.

- Sales per quarter during the last year were 64,000 units, 70,600 units, 86,000 units and 84,000 units. (1 unit = 1 batch)
- Unit sales are expected to increase by 25% in each quarter and price per unit is expected to increase by 20% for the year. The current price per unit is Rs.160.
- Each unit of product requires 1Kg of Flour as direct materials. The cost of 1Kg of Flour is Rs.40. Management prefers to maintain ending raw materials inventory equal to 18% of next quarter's need of materials. Assume that raw materials inventory at the end of the fourth quarter is estimated to be 13,000 Kg.
- The management prefers to maintain ending finished goods inventory equal to 20% of next quarter's sales. Assume that finished goods inventory at the end of the fourth quarter is 14,000 units.
- Indirect material cost per unit is Rs.12, indirect labour cost per unit is Rs.14 and other indirect cost is Rs.10 per unit.
- Each unit of production requires 0.60 direct labour hours at a cost of Rs.90 per hour.
- Fixed overhead for the period is comprised of Salaries Rs.148, 000 (monthly), insurance charges Rs.820, 000 (annually) and rent Rs.58,000 (monthly).
- Depreciation per month is Rs.22, 500.
- Selling and Administrative Expenses are as follows;
  Sales Commission Rs.75, 000 (quarterly)
  Sales representative salaries Rs. 50,000 (monthly)
  Advertisement expenses Rs. 800,000 (annually)
  Distribution expenses Rs. 1,200,000 (annually)
- Capital Expenditure for the First quarter and Fourth quarter are Rs.70, 000 and Rs.40, 000 respectively.
- Out of sales, 60% is on cash basis and the balance is on credit. Out of credit sales, 80% of cash is collected in the quarter sold and the remaining 20% in the following quarter. Credit sales for the last quarter of the previous year were Rs.800, 000.

- Out of direct material purchases 70% is on cash basis and the balance is on credit. On average 60% of credit purchases is paid in the same quarter and the balance 40% in the following quarter.
- The amount of credit purchases for the last quarter of the previous year is Rs. 300,000.
- Other income per each quarter is estimated to be Rs. 45,000.
- Opening cash balance for 1st quarter is Rs.20,000

You are required to prepare the following budgets for the year ending on 31.12.2017.

1. Sales Budget
2. Production Budget
3. Direct Material Purchases Budget
4. Manufacturing Overhead Budget
5. Cash Budget

(20 Marks)

6. i. Using your knowledge on learning curves, explain its limitations to an organization.

(03 Marks)

ii. You are in charge of a large assembly workshop that specializes in contract assignments. One of your customers has promised to award you a large contract for the assembly of 1,000 units of a new machine. The suggested bid price in the contract is based on an average of 20 hours of direct labour per unit. Before accepting the contract you conduct a few test assemblies and find that, although the first unit took 50 hours, the second unit could be completed in just 40 hours.

a. How many hours do you expect the assembly of the third unit to take?

(02 Marks)

b. How many hours do you expect the assembly of the 100th unit to take?

(02 Marks)

c. Is the contract's assumption about the average labor hours per unit valid or should the price be revised?

(03 Marks)

iii. Briefly describe the concepts of First In First Out (FIFO) and Weighted Average Cost (WAC) used in process costing.

(04 Marks)

iv. Royal Textiles Company manufactures a variety of natural fabrics for the clothing industry. The following data relate to the Weaving Department for the month of December 2016.

Equivalent Units	
Direct Material	40,000
Conversion cost	44,000
Units completed and transferred out	50,000

The cost data for December are as follows:

Work in progress (1st December 2016)	**Rs.**
Direct Material	94,000
Conversion cost	44,400
Costs incurred during December	
Direct Material	164,000
Conversion cost	272,800

There were 20,000 units in process in the Weaving Department on 1st December 2016 (fully complete as to direct materials and 40% complete as to conversion costs).

You are required to calculate the following using FIFO method.

a. Cost of goods completed and transferred out of the Weaving Department during December 2016.

(03 Marks)

b. Cost of the closing work-in-process inventory in the Weaving Department (The equivalent units in the closing work in process are 10,000 for direct material and 2,000 for conversion costs).

(03 Marks)
(Total 20 marks)