

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF TEXTILE TECHNOLOGY
END OF SEMESTER EXAMINATIONS DECEMBER 2003
MANAGEMENT ACCOUNTING TXT 4122
TIME: 3 HOURS

INSTRUCTIONS

Answer **ALL** questions from Section A and **ANY TWO** from section B. Section A carries 60 marks and each question in section B carries 20 marks. Allocate 60 minutes to section A and 90 minutes to section B.

SECTION A

1. The following details relate to a shop which currently sells 25000 pair or shoes annual

Selling price per pair of shoes	\$40
Purchase cost per pair of shoes	\$25
Total annual fixed costs:	
Salaries	\$100 000
Advertising	40 000
Other fixed expenses	100 000

You are required to:

- (i) Calculate the breakeven point and margin of safety in number of pairs of shoes sold. (2 marks)
- (ii) Assume that 20000 pairs of shoes were sold in a year. Calculate the shop's gross profit. (2 marks)
- (iii) How many pairs of shoes would need to be sold in a year in order to earn a profit of \$10 000? (3 marks)
- (iv) Assume that for next year an additional advertising campaign costing \$20000 is proposed, whilst at the same time selling prices are to be increased by 12%. What would be the breakeven point in number of pairs of shoes? (3 marks)
2. Calculate three control levels for a Stock Control System having the following characteristics:
- | | |
|---------------|---------------------|
| Average usage | 3000 units per week |
| Minimum usage | 2200 units per week |
| Maximum usage | 4200 units per week |
| Lead time | 10 – 14 weeks |

Economic Order Quantity 35000 units

- Calculate (a) Re-order level (2 marks)
(b) the maximum level (4 marks)
(c) the minimum level (4 marks)

3. (a) Calculate five different overhead absorption rates for cost centre 17 based on the following budgeted data.

Labour hours for period	\$1400	
Total direct wages for period	\$3600	
Total direct materials for period	\$7500	
Total machine hours for period	\$2850	
Total units produced for period	\$ 535	
Total overheads for period	\$12900	(5 marks)

- (b) A cost unit has been produced in Cost Centre 17 and the following details recorded:

Direct Materials used	\$16.50
Direct Wages	\$17.50
Direct Labour hours	5 ½
Machine hours	8 ½

Calculate the cost of the above unit using each of the absorption bases calculated in (a) above. (5 marks)

4. Within the costing system of a manufacturing company the following types of expense are incurred:-

Reference No

- i) Cost of oils used to lubricate production machinery
- ii) Motor vehicle licenses for lorries
- iii) Depreciation factory plant and equipment
- iv) Cost of chemicals used in the laboratory
- v) Commission paid to sales representatives
- vi) Salary of the secretary to the Finance Director
- vii) Trade discount given to customers
- viii) Holiday pay of machine operative
- ix) Salary of security guard in raw material warehouse
- x) Fees to advertising agency
- xi) Rent of finished goods warehouse
- xii) Salary of scientist in laboratory
- xiii) Insurance of the company's premises
- xiv) Salary of supervisor working in the factory

- xv) Cost of typewriter, ribbons in the general office
- xvi) Protective clothing for machine operatives.

You are required to place each expense or cost within the following classifications:

Production overhead (8 marks)

Selling and Distribution overhead (4 marks)

Administration overhead (4 marks)

Research and development overhead (4 marks)

Each type of cost should appear only once in your answer. You can use the reference numbers to indicate your answer.

SECTION B

Answer any **TWO** questions in this Section.

- I. Prepare an overhead analysis from the following data using the processes of allocation and apportionment. Where apportionment is used the basis should be stated.

BASIC DATA					SERVICE COST CENTRES			
PRODUCTION COST CENTRES								
	Machinin g	Fabrication	Assembly	Plating	Stores	Maintenance	Quality Control	Total
No of employees	85	35	40	40	8	22	10	240
Plant & Machinery Values	\$185000	\$45000	\$65000	\$110000	\$25000	\$55000	\$15000	\$500000
Area (M2)	8500	10000	7500	2500	500	750		30000
KWH (000)	480	220	250	650		80		1680
Material Requisitions	1200	200	750	750		600		3500
Maintenance Hours booked on minor work	125	50	60	65				300
	\$	DURING \$	PERIOD \$	23 THE \$	FOLLOWING \$	DATA \$	WERE \$	RECORDED
Indirect Labour	5200	2600	12500	4400	2300	3800	1800	32600
Indirect Materials	3500	750	3100	1750	650	3400	1100	14250
Major Maintenance work	12500	8200	4200	7600			6500	39000

In addition for period 23 the following details were extracted from the Cost-Accounts and other records;

	\$
Rates	2600
Machine Depreciation	650
Factory administration costs	11000
Power	3250
Heating & Lighting	1400
Machine insurance	350
Balance of maintenance cost (excluding major works)	29300

NB Quality Control to be apportioned 50% to Machining, 25% to fabrication 20% to assembly and 5% to plating.
(20 marks)

2. A manufacturer incurred the following costs in a period for his sole product:-

	\$
Labour (25% variable)	8000
Materials (100% variable)	12000
Selling costs (10% variable)	2000
Other costs (fixed)	<u>7000</u>
	<u>29000</u>

A normal period's sales are 500 units at \$70 each, but up to 650 units could be made in a period. Various alternatives are being considered:-

- (i) Reduce the price to \$63 each and sell all that could be made.
- (ii) Increase the price to \$80 each at which price sales would be 400 units.
- (iii) Keep the present plan
 - (a) What is the most profitable plan? (5 marks)
 - (b) What are the contribution/sales ratios? (5 marks)
 - (c) What is the breakeven point for each alternative in units (10 marks)

3. A shop stocks winter coats, which sell at \$55 each. To avoid overstocking and because of limited space, the deliveries from four manufacturers, at differing prices are made to the shop on a weekly basis at opening time on Monday mornings. During October the deliveries and sales at coats were as shown below and there was an opening stock of 10 coats which had been purchased in September at \$29 each.

Week no.	Number of coats Bought	Cost of Coat each \$	No. of coats sold
1	20	30	15
2	30	33	33
3	40	29	35
4	30	35	39

From the information given above you are required to put a valuation on:

- (a) the issues of materials
 (b) the closing stocks

Using the following methods

- (i) FIFO (5 marks)
 (ii) LIFO (5 marks)
 (iii) Weighted Average Method (5 marks)

- (c) Prepare a Trading Account showing the gross profit for each method (2 ½ marks)
 (d) Recommend which method you would advise the shop management to use and why. (2 ½ mark)

4. (a) Define what a budget is and state what its purposes are for in any organisations?
 (b) A company has a cash balance of \$29000 at the beginning of March and you are required to prepare a cash budget for March, April, and May taking the following information into consideration.

- Creditors give one month credit
- Salaries are paid in the current month
- Fixed costs are paid in the current month
- Credit sales are settled as follows: 40% in the month of sale, 45% in the next month and 15% in the following month.

MONTH	CASH SALES	CREDIT SALES	PURCHASES	SALARIES	FIXED OVERHEADS
Jan	-	74000	55200	9000	25000
Feb	-	82000	61200	9000	25000
Mar	20000	80000	60000	9500	25000
Apr	22000	90000	69000	9500	27000
May	25000	100000	75000	10000	27000

(15 marks)

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5. (a) Outline the procedures and information required in order to establish a set of pre-determined production overhead absorption rates, for a company manufacturing a range of different products in a factory containing a number of production departments and several service departments.
(13 marks)
- (b) Critically examine the purpose of calculating overhead absorption rates.
(7 marks)

END OF QUESTION PAPER