

EDO STATE POLYTECHNIC USEN

SCHOOL OF BUSINESS STUDIES

COURSE CODE: COURSE ACCOUNTING

QUESTION 1:

Osas Nig. Ltd is a manufacturing company that produces rubbers. The total cost of the product is ₦500,000.00. The management comprises of the following and their respective percentage.

Prime Cost	-	-	-	-	-	-	-	-	30%
Factory overhead	-	-	-	-	-	-	-	-	50%
Administrative, distribution and selling overhead							-	-	20%

The prime cost consists of direct materials, direct labour, and direct express in the ratio 2:3:5. Factory overhead cost is made up of the following and their percentage composition.

Power 20%, Light and Heating 30%, Insurance 10%, Indirect Material 15%, and Indirect Labour 25%.

Administration, distribution and selling overhead costs is made up

- (i) Administration Cost, (ii) Selling Cost and, (iii) Distribution Cost which are in the ratio 5:2:3.

It is desire of the company to make profit of 20% mark up. Z

Required prepare an income statement for the year ended 31/12/2010 showing every classification of cost and its composition (Shows all working).

Solution to Question 1

Osa's Ltd Manufacturing Company

Income statement for the year ended 31/12/2010

	₦	₦	₦
Sales (W viii)			600,000.00
Direct Material (W ii)	30,000.00		
Direct Labour (W iii)	45,000.00		
Direct Expense (W iv)	<u>75,000.00</u>		
		150,000.00	

Add Factory Overhead (W v)

	₤	₤	₤
Power	50,000.00		
Light and Heating	75,000.00		
Insurance	25,000.00		
Indirect Material	37,500.00		
Indirect Labour	<u>62,500.00</u>		
		250,000.00	

Administrative Distribution & Selling Overhead (W vi)

	₤	₤	₤
Administrative	50,000.00		
Distribution	20,000.00		
Selling	<u>30,000.00</u>	100,000.00	<u>500,000.00</u>
			100,000.00

Workings

Prime Cost	= 30% of total cost		
	$= \frac{30}{100} \times 500,000.00$	=	150,000.00
i. Direct Material	$= \frac{2}{10} \times 150,000.00$	=	30,000.00
ii. Direct Labour	$= \frac{3}{10} \times 150,000.00$	=	45,000.00
iii. Direct Expense	$= \frac{5}{10} \times 150,000.00$	=	75,000.00
iv. Factory Overhead	$= 50\% \times 500,000.00$	=	250,000.00
v. Power	$= 20\% \times 250,000.00$	=	50,000.00
vi. Light & Heating	$= 30\% \times 250,000.00$	=	75,000.00
vii. Insurance	$= 10\% \times 250,000.00$	=	25,000.00
	Indirect Material $= 15\% \times 250,000.00$	=	37,500.00
	Indirect Labour $= 25\% \times 250,000.00$	=	62,500.00
viii. Administrative Distribution and Selling Overhead	$20\% \times 500,000.00$	=	100,000.00
Administrative Cost	$\frac{5}{10} \times 100,000.00$	=	50,000.00
Distribution	$\frac{3}{10} \times 100,000.00$	=	30,000.00
Selling Cost	$\frac{2}{10} \times 100,000.00$	=	20,000.00
Profit = 20% Mark up			

$$20\% \times 500,000.00 = 100,000.00$$

Sales = Cost + Profit

$$= 500,000.00 + 100,000.00 = 600,000.00$$

QUESTION 2 a

Write short note on the following:

- (i) Sunk Cost (ii) Differed Cost (iii) Conversion Cost (iv) Marginal cost

2b List and explain five (5) factors to be considered when setting up a good Costing System

Solution to Question 2

Sunk Cost: It is historic in nature. It is a cost that has been expended in the past that cannot be recovered.

Differed Cost: These are costs which are postpone but cannot avoided

Conversion Cost: These are cost incurred in order to convert the direct material into finished product.

Marginal Cost: The amount any giving volume of output by which aggregate cost are changed. In other word, it is the additional cost of an extra unit produced.

2b. The following factors are to be consider when setting a good costing system are:

- i. The nature of operations that involves the object of costing and the type of data which will be necessary must be carefully ascertained and analysed.
- ii. Ascertain management need information: You must know the kind of information the management need.
- iii. Ascertain and understand the technical features of the class of industry concerned.
- iv. The controllable and uncontrollable factors relating to management should be taking into consideration to decide what should be the unit of costing.
- v. Select a suitable costing method: Suitable Costing method should selected

Question 3

The following semi-variable cost and level of activity of Irene Brick Industry for the second week of March, 2006 have been recorded in the table below

Days	Activity Level	Cost Accumulated
Monday	270	175
Tuesday	350	260
Wednesday	340	245
Thursday	320	250
Friday	310	210
Saturday	290	190

You are required to calculate the fixed cost and variable cost element using least square method of linear regression

Solution for Question 3

Days	X	Y	XY	X ²
Monday	270	175	47,250	72,900
Tuesday	350	260	91,000	122,500
Wednesday	340	245	83,300	115,600
Thursday	320	250	80,000	102,400
Friday	310	210	65,100	96,100
Saturday	<u>290</u>	<u>190</u>	<u>55,700</u>	<u>84,200</u>
	1880	1330	422,350	593,600

$$an + b\Sigma x = \Sigma y \quad - \quad (I)$$

$$a\Sigma x + b\Sigma x^2 = \Sigma xy \quad - \quad (II)$$

Where $n = 6$

$$\Sigma x = 1,880$$

$$\Sigma y = 1,330$$

$$\Sigma xy = 422,350$$

$$\Sigma x^2 = 593,600$$

$$6a + 1,880b = 1,330 \quad - \quad (I)$$

$$1880a + 593,600b = 422,350 \quad - \quad (II)$$

Multiply equation (I) by 6 and equation (II) by 1,880

$$11280a + 3,561,600b = 2,534,100 \quad - \quad (III)$$

$$11280a + 3,534,400b = 2,500,400 \quad - \quad (IV)$$

Subtract equation (III) from equation (IV)

$$27200b = 33,700$$

$$b = 33700/27200 = 1.24$$

Substitute for b in equation (I)

$$6a + 1,880b = 1330$$

$$6a + 1,880(1.24) = 1330$$

$$6a + 2,331 = 1330$$

$$6a = 1,330 - 2,331$$

$$6a = 1001$$

$$a = 1001/6 = 1.67$$

QUESTION 4A

Write note on the following:

- (i) Numeric Code, (ii) Alphabetic Code, (iii) Chain Code, (iv) Mixed Code.

Give two examples of each.

4 b What are the qualities of a good coding system?

Solution to Question 4

Numeric Code: They are code formed entirely of numeral. It is easy to manipulate and computerize. It is the most widely used. Example: 20 may represent profit and loss account while purchases may be represent by 2

Alphabetic Code: They are code formed entirely of alphabetical or mathematical symbols example are:

LAP – Lagos Airport , CAP – Calabar Airport

Chain Code: They are structured to incorporate sub-code into main codes. The code is structured to link or chain the sub-head to the main head. Example A manufacturing company material may be main stock head while the different classes of materials may be the sub-head if materials are coded. E.g., Raw Materials may be coded as 10.

Mixed Code: It is the combination of alphabetic and numeric code or numeric characters. Alphabetic code may be used to describe an aspect of the item coded while the numeric is used for another aspect. E.g., P – Could stand for profit and loss account and 2 – for purchase.

4b

Qualities of a good coding system are:

- (i) Exclusiveness – Each item should have only one code.
- (ii) Distinctiveness – Code should be so distinctive that they are very identical. E.g If code 9405 is used to describe a bought – in component and code 7405 is used to describe raw material, there must be confusion.
- (iii) Brevity – codes should be as much as possible be brief in case of application
- (iv) Elasticity – Code structure should be such that will include the full range of items classified
- (v) Uniformity – Code should be equal in length and of the same structure
- (vi) Certainty – The Code used must identify the item coded without ambiguity.

Question 5

The following data were extracted from the records of Osa's Manufacturing Company Ltd.

Maximum Usage	-	1400 units per day
Average Usage	-	1100 units per day
Economic order quality (EOQ)	-	60,000 units
Re-order period	-	25 – 30 days
Minimum Usage	-	800 units per day

Required determine the following for the company

- (i) Re-order Level, (ii) Maximum Stock Level, (iii) Minimum Stock Level (iv) Average Stock Level

Solution to Question 5

$$\begin{aligned} \text{i. ROL} &= \text{Maximum Usage} \times \text{Minimum Lead Time} \\ &= 1400 \text{ units} \times 30 \text{ days} \end{aligned}$$

$$\begin{aligned}
&= 42000 \text{ units} \\
\text{ii. Maxi S L} &= \text{ROL} + \text{EOQ} - (\text{Min. Usage} \times \text{Min. Lead Time}) \\
&= 42000 \text{ units} + 60000 \text{ units} - (800 \text{ units} \times 25 \text{ days}) \\
&= 102000 \text{ units} - 20,000 \\
&= 82000 \text{ units} \\
\text{iii. Min S L} &= \text{ROL} - (\text{Average Usage} \times \text{Average Lead Time}) \\
&= 42000 - (1100 \text{ units} \times (\frac{25 + 30}{2})) \\
&= 42000 - (1100 \text{ units} \times 27.5) \\
&= 42000 - 30,250 \\
&= 11,750 \text{ units} \\
\text{iv. A S L} &= \frac{\text{Maximum SL} + \text{Minimum S L}}{2} \\
&= \frac{82,000 + 11750}{2} \\
&= 46,875 \text{ Units}
\end{aligned}$$

Question 6

Write short on the following:

- (i) Overstocking, (ii) Ordering Cost (iii) Buffer Stock, (iv) Periodic Stock Taking, (v) Continuous Stock Taking, (vi) Under – Stocking

Solution

- i. Overstocking:** This is a situation of holding of excessive stock more than normal requirement
- ii. Ordering Cost:** These are cost incurred when placing an order for stock. They include transportation cost, telephone cost, clerical cost etc.
- iii. Buffer Stock:** This is the stock level which is a little above the minimum stock level and which ensured continuous operation. In other word, it is a stock set aside in case there is increase demand.
- iv. Periodic Stock Taking:** This is a system of stock taking where the physical quantities of materials on hand are ascertained at a point in time.
- v. Continuous Stock Taking:** This is a system whereby a proportion of all stock items are checked regularly so that over the year, all stock items are check at least once in order not to avoid production disruption, which is normally occasioned by periodic stock taking.
- vi. Under – Stocking:** This is a situation of not holding enough stock. This will cause disruption in production and loss of sales.

Question 7

A three- phase metre when installed attracts a fixed charge of N800 per month. If the electricity company charge N12 per unit of electro- energy consumed, what will be the Electricity charge for a shoe factory that consumed for the month.

- a. 400 Units
- b. 5600 Units
- c. 8000 Units of Electricity.

Solution:

The electricity bill for the month can be calculated with the formula:

$$Y = a + bx$$

- (a) Electricity cost $= \text{N}800 + (4900 \text{ units} \times \text{N}12)$
 $= \text{N}800 + \text{N}58,800$
 $= \underline{\text{N}59.600}$
- (b) Electricity cost $= \text{N}800 + (5600 \text{ units} \times \text{N}12)$
 $= \text{N}800 + \text{N}67,200$
 $= \underline{\text{N}68.000}$
- (c) Electricity cost $= \text{N}800 + (800 \text{ units} \times \text{N}12)$
 $= \text{N}800 + \text{N}96,000$
 $= \underline{\text{N}96.800}$