

# THE PUBLIC ACCOUNTANTS EXAMINATIONS BOARD

*A Committee of the Council of ICPAU*

## ATC(U) EXAMINATIONS

### LEVEL THREE

#### INTRODUCTION TO MANAGEMENT ACCOUNTING – PAPER 9

**MONDAY, 16 JUNE 2003**

#### INSTRUCTIONS TO CANDIDATES

1. Time allowed: **3 hours**
2. Attempt all questions in Section **A**, **two** questions in Section **B** and any **three** in Section **C**.
3. Section **A** has **twenty** compulsory multiple choice questions each carrying 1 mark.
4. Section **B** has **three** questions and only **two** questions are to be attempted. Each question carries 25 marks.
5. Section **C** has **three** questions and only **two** questions are to be attempted. Each question carries 15 marks.
6. Please read further instructions on the answer book.

## SECTION A

### Question 1

- (i) In the formula  $Q = \sqrt{(2CD/H)}$ , if  $C = \text{Shs. } 500$ ,  $D = 600,000$  and  $Q = 1,000$ , then the value of  $H$  is approximately:

- (a)  $\sqrt{600}$ .
- (b) 345.
- (c) 600.
- (d) 455.

- (ii) Which of the following is a fixed cost?

- (a) Direct labour cost.
- (b) Direct material cost.
- (c) Supervisory cost.
- (d) Land rent.

- (iii) The following data relates to the overhead expenditure of construction workers at two activity levels:

Road works (metres)	15,750	18,100
Overheads (Shs)	37,950,000	38,585,000

What is the estimate of the overheads if 19,500 metres are to be worked on?

- (a) Shs 38,584,970.
  - (b) Shs 46,985,714.
  - (c) Shs 42,205,808.
  - (d) Shs 38,063,287.
- (iv) BT Ltd makes 3 components – X, Y and Z. The following costs have been recorded.

	Component X	Component Y	Component Z
	Unit Cost	Unit cost	Unit Cost
	Shs.	Shs.	Shs.
Variable cost	3,000	9,000	6,000
Fixed costs	<u>2,500</u>	<u>9,500</u>	<u>4,500</u>
Total cost	<u>5,500</u>	<u>18,500</u>	<u>10,500</u>

Another company has offered to supply the components to BT Ltd at the following prices:

	Component X	Component Y	Component Z
	Shs.	Shs.	Shs.
Price each	5,000	8,000	7,000

Which of the components, if any, should BT Ltd consider buying in?

- (a) Buy in all three components.
  - (b) Don't buy any.
  - (c) Buy component Y.
  - (d) Buy components X and Z.
- (v) A construction company – Flex Kampala Ltd has the following data concerning one of its contracts to repair Kampala roads:

	Shs.
Contract price agreed	300,000,000
Value certified	150,000,000
Cash received	100,000,000
Costs incurred	125,000,000
Cost of work certified	110,000,000

The profit attributed to the contract is Shs:

- (a) 95,000,000
  - (b) 26,666,667
  - (c) 40,000,000
  - (d) 49,999,999
- (vi) For operational purposes, which of the following cost units would be most useful for a company operating a range of passenger aeroplanes?
- (a) Cost per km flown.
  - (b) Cost per passenger flown.
  - (c) Cost per pilot.
  - (d) Cost per passenger baggage.
- (vii) A centre for which costs, revenues and investments may be ascertained is an example of:
- (a) A profit centre.
  - (b) A revenue centre.
  - (c) An investment centre.
  - (d) A cost unit.

- (viii) Oil Rift Valley Ltd operates a standard costing system for production and uses variance analysis to identify deviations from budget. Information with regard to variable overhead costs for the period was as follows:

▪ Budgeted cost	Shs. 360,000
▪ Actual cost	Shs. 247,600

Labour hours:

▪ Budgeted	180,000 hours
▪ Actual	165,300 hours

Variable overheads are absorbed on a direct labour hour basis.

**Required:**

The variable overhead expenditure variance is Shs:

- (a) 112,400
  - (b) 15,455
  - (c) 83,000
  - (d) 135,200
- (ix) Which of the following techniques would not be useful for controlling costs?
- (i) Actual versus flexed budget
  - (ii) Variance analysis
  - (iii) Trend of costs analysis
- (a) (i) and (ii).
  - (b) (i) and (iii).
  - (c) (iii).
  - (d) None of these
- (x) Which of the following statements are false?
- (i) Decision making is based exclusively on the financial results of a decision maker.
  - (ii) Committed costs are relevant for decision-making.
  - (iii) Overheads absorbed are irrelevant for decision-making.
  - (iv) Directly attributable fixed costs are relevant for decision-making.
- (a) (i) and (ii).
  - (b) (i), (ii) and (iv).
  - (c) (i) and (iv).
  - (d) (ii), (iii) and (iv).

- (xi) Which of the following statements is false?
- (a) Depreciation costs are irrelevant costs for decision-making.
  - (b) A decision maker should consider alternative ways of achieving objectives.
  - (c) Incremental costs are irrelevant for decision-making.
  - (d) The scrap value of normal loss is credited to the process account.
- (xii) Which of the following statements is false?
- (a) Contract costing is appropriate if each unit of production is unique and takes a considerable length of time to complete.
  - (b) Batch costing refers to a system where either job or process costing techniques are used to manufacture a product.
  - (c) Rectification costs should be charged to production overheads if the costs cannot be specifically traced to a job.
  - (d) Job costing is required when each unit of production is unique and production is of a long duration.
- (xiii) Which of the following statements is false?
- (a) Management accounts detail the performance of an organization over a defined period and the state of affairs at the end of that period.
  - (b) There is no legal requirement to prepare management accounts.
  - (c) The format of management accounts is entirely at management's discretion.
  - (d) Management accounts are both an historical record and a future planning tool.
- (xiv) A company absorbs overheads based on labour hours. Data for the latest period are as follows:
- |                       |                  |
|-----------------------|------------------|
| Budgeted labour hours | 17,000 hours     |
| Budgeted overheads    | Shs. 297,500,000 |
| Actual labour hours   | 15,856 hours     |
| Actual overheads      | Shs. 292,400,000 |
- Calculate the amount of under/over absorbed overhead.
- (a) Shs. 51,000,000 under absorbed.
  - (b) Shs. 51,000,000 over absorbed.
  - (c) Shs. 14,920,000 under absorbed.
  - (d) Shs. 14,920,000 over absorbed.

- (xv) Which of the following is not a feature of activity based costing?
- (i) It recognizes that a single factor such as machine hours cannot be the driver of all overhead costs.
  - (ii) It seeks to recognize the causes of the costs of activities through the use of cost drivers.
  - (iii) It allocates the costs associated with cost drivers into cost pools.
  - (iv) It uses a basis such as labour hours to incorporate overheads into product costs.
- (a) None of the above.  
(b) (i), (ii), (iii) and (iv).  
(c) (iv).  
(d) (ii).

**Use the following information to answer questions (xvi) – (xviii).**

The costs of XYZ Ltd follow a pattern represented by  $TC = 2,000,000 + 150Q$

Where TC = total costs

Q = quantity produced and sold.

The total revenue function is shown as  $200Q$ .

- (xvi) What is the breakeven point?
- (a) 10,000 units.
  - (b) 40,000 units.
  - (c) 30,000 units.
  - (d) 5,714 units.
- (xvii) How many units should be produced to generate revenue of Shs. 20,000,000?
- (a) 10 units.
  - (b) 10,000 units.
  - (c) 100,000 units.
  - (d) 133,000 units.
- (xviii) If 20,000 units are produced, the profit or loss will amount to Shs:
- (a) 1,000,000 (loss).
  - (b) 2,000,000 (loss).
  - (c) 2,000,000 (profit).
  - (d) 1,000,000 (profit).

- (xix) If a product is not profitable and management is considering shutting down the production line, consideration should be made to the:
- (i) Effect on staff.
  - (ii) Resultant spare capacity.
  - (iii) Effect on other products being produced.
  - (iv) Image of the company.
- (a) (i) and (ii).  
(b) (i), (ii) and (iii).  
(c) (ii), (iii) and (iv).  
(d) (i), (ii), (iii) and (iv).
- (xx) Which of the following is false?
- (a) Labour idle time variance is sometimes favourable.
  - (b) Even a favourable variance may be undesirable.
  - (c) Ideal standards lead to adverse variances.
  - (d) A basic standard is a standard which cannot be attained under perfect conditions.

**SECTION B****Question 2**

Esau Ltd manufactures three products - slippers, shoes and belts. The company has two production departments: Moulding and Finishing, and each department employs two grades of labour. The cost accountant is preparing the annual budget for 2004 and he has asked you, his assistant, to use the data given below to prepare:

- (a) The production budget in units for slippers, shoes and belts. **(10 marks)**
- (b) The direct wages budget for Moulding and Finishing departments with the labour costs of slippers, shoes and belts and total shown separately. **(15 marks)**

**Data**

	<b>Total</b>	<b>Slippers</b>	<b>Products</b>	
	<b>Shs</b>	<b>Shs.</b>	<b>Shs</b>	<b>Belts</b>
				<b>Shs</b>
Finished stocks:				
Budgeted Stocks are:				
1 Jan 2004		720,000	540,000	1,800,000
31 December 2004		600,000	570,000	1,000,000
All stocks are valued at expected cost per unit		2,400	1,500	2,000
Expected profit:				
Calculated as percentage of selling price		20%	25%	16 <sup>2</sup> / <sub>3</sub> %
Budgeted sales:	18,080,000	4,200,000	3,800,000	10,080,000
Normal loss in production		10%	20%	5%
Expected labour times per unit and expected rates per hour				
	<b>Rate (Shs)</b>	<b>Hours/unit</b>	<b>Hours/unit</b>	<b>Hours/unit</b>
Moulding Department:				
Grade 1	1,800	1.00	1.50	0.50
Grade 2	1,600	1.25	1.00	0.75
Finishing Department:				
Grade 1	2,000	1.50	0.50	0.50
Grade 2	1,800	1.00	0.75	1.25



**Question 3**

The following information relates to Zio Invest Ltd

	Shs.
Selling price per unit	2,500
Total variable cost per unit	1,000
Fixed overhead (based on normal output)	1,000
Fixed production overhead in period	Shs. 1,000,000
Normal output	100,000 units
Fixed administration overhead	Shs. 100,000

**Additional information is as follows:**

<u>Units</u>	<u>Period 1</u>	<u>Period 2</u>	<u>Period 3</u>	<u>Period 4</u>	<u>Period 5</u>	<u>Period 6</u>
Opening stock	0	?	?	?	?	?
Production	100,000	?	100,000	100,000	?	80,000
Sales	100,000	80,000	?	100,000	80,000	?
Closing stock	?	20,000	0	?	40,000	10,000
Stock movement	?	?	?	?	?	?

**Note:** Periods 1 to 6 are consecutive periods.

**Required:**

- (a) Fill in the missing spaces in the table. **(4 marks)**
- (b) Determine the net profit of Zio Invest Ltd using absorption costing. **(8 marks)**
- (c) Determine the net profit of Zio Invest Ltd using marginal costing. **(7 marks)**
- (d) Reconcile the profit arrived at using absorption costing to that arrived at using marginal costing. **(6 marks)**
- (Total 25 marks)**

**Question 4**

- (a) Illustrate how the following cost items, relating to direct personnel, would be processed in a manufacturing business' cost accounts:

(i) Idle time **(3 marks)**

(ii) Overtime **(3 marks)**

- (b) The following information is available regarding the labour costs in a manufacturing department for a week:

	Direct Personnel	Indirect Personnel
Recorded hours:		
Production	1,000	650
Training	38	-
Idle time	<u>40</u>	<u>20</u>
Total	<u>1,078</u>	<u>670</u>
Rate per hour:		
Basic	Shs. 2,000	Shs 1,500
Overtime premium	Shs. 500	Shs 450

**Additional information:**

- (i) There are 50 direct personnel and 5 indirect personnel in the department.
- (ii) Group bonuses for the week, shared by all workers in the department, total Shs. 25,000.
- (iii) The basic wage rates apply to a normal working week of 80 hours.
- (iv) Overtime is worked to meet the general requirements of production.
- (v) The idle time and the time spent training during the week are regarded as normal.
- (vi) The expected number of recorded hours of direct personnel in the week (excluding training time) required to produce the output achieved is 1,200 hours.

**Required:**

- (i) Calculate the total amount paid in the week (before share of group bonuses) to direct personnel and indirect personnel respectively.

**(6 marks)**

- (ii) Determine the total amounts to be charged as direct wages and indirect wages respectively.

**(8 marks)**

- (iii) Complete the wages control account in the company's separate cost accounting system, clearly indicating the account in which each corresponding entry would be made.

**(5 marks)**

**(Total 25 mark)**

**SECTION C****Question 5**

Empty Ltd produces and sells a product called 'Matter'. The standard cost for one unit being as follows:

	Shs.
Direct material A – 20 kgs at Shs. 2,000 per kg	400,000
Direct wages – 10 hours at Shs. 600 per hour	6,000
Fixed production overhead	<u>10,000</u>
Total standard cost	<u>416,000</u>

The fixed overhead included in the standard cost is based on an expected monthly output of 1,000 units.

During June 2002 the actual results were as follows:

Production	900 units
Material A	18,000 kg used, costing Shs. 36,900,000.
Direct wages	4,500 hours worked for Shs. 2,587,500.
Fixed production overhead	amounted to Shs. 1,000,000.

**Required:**

Calculate:

- (a) Material price and usage variances. **(3 marks)**
  - (b) Labour rate and efficiency variances. **(3 marks)**
  - (c) Fixed production overhead expenditure and volume variances. **(4 marks)**
  - (d) Fixed production overhead volume efficiency and volume capacity variances. **(5 marks)**
- (Total 15 marks)**

**Question 6**

- (a) Give three arguments for and three arguments against the use of absorption costing. **(6 marks)**
  - (b) Outline factors to consider before accepting a special order. **(3 marks)**
  - (c) Explain the principal budget factor. **(3 marks)**
  - (d) Define abnormal loss and explain how it can be minimized. **(3 marks)**
- (Total 15 marks)**

**Question 7**

The following transactions were recorded at the main store of Beer Is Life Ltd a brewing company:

		Quantity of materials	Unit cost	Total cost	Market value per unit on date of transaction
		(Units)	Shs.	Shs.	
Opening balance	1 March	200	1,000	200,000	
Receipts	5 March	300	1,200	360,000	1,220
Issues	6 March	250			1,220
Receipts	8 March	400	1,250	500,000	1,260
Issues	15 March	500			1,265
Receipts	20 March	200	1,300	260,000	1,280
Issues	25 March	200			1,290
Closing balance	31 March	150			1,300

**Required:**

- (a) Determine the cost of issues and the value of closing inventory using weighted average.

**(8 marks)**

- (b) Briefly explain how the valuation of work in process is done at year-end and state the importance of this exercise in cost and financial accounting.

**(4 marks)**

- (c) Give three reasons for periodic inventory counting instead of relying on perpetual inventory record updates.

**(3 marks)**

**(Total 15 marks)**