

# THE PUBLIC ACCOUNTANTS EXAMINATIONS BOARD

*A Committee of the Council of ICPAU*

## INTRODUCTION TO MANAGEMENT ACCOUNTING – PAPER 9

### ATC(U) EXAMINATIONS

### LEVEL III MODEL EXAMINATION PAPER

**MAY 2002**

#### 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 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.

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## SECTION A

### Question 1

*Use the information in the following paragraph to answer questions (i) and (ii).*

Y2K Consult budgeted to produce 10,000 units at 80% capacity. In a particular period, it managed to operate at 75% capacity at a cost of Shs.120,000.

- (i) What is the expected production (in units) at 75% capacity?
  - (a) 90,000.
  - (b) 7,500.
  - (c) 9,375.
  - (d) 9,600.
- (ii) What is the expected cost at 60% capacity assuming all costs are variable?
  - (a) Shs 72,000.
  - (b) Shs 96,000.
  - (c) Shs 90,000.
  - (d) Shs 88,000.

*Use the information to answer questions (iii) and (iv).*

Rainpower Ltd. manufactures iron sheets. In a certain period it sold 1,000 sheets and realised Shs.16,000,000. The variable costs of manufacture per sheet amounts to Shs.9,500. The fixed costs for the period under consideration was Shs.19,500,000.

- (iii) Calculate the breakeven point (in units).
  - (a) 2,188.
  - (b) 368.
  - (c) 13,000.
  - (d) 3,000.
- (iv) Calculate the breakeven sales (in shillings).
  - (a) Shs 35.3 million.
  - (b) Shs 48.0 million.
  - (c) Shs 5.88 million.
  - (d) Shs 208 million.

- (v) A Cost Driver is:-
- (a) An item of production overhead.
  - (b) A common cost which is shared over cost centres.
  - (c) Any cost relating to transport.
  - (d) An activity which generates costs.
- (vi) Which of the following is false?
- (a) Depreciation Costs are irrelevant costs for decision making.
  - (b) A decision maker should consider financial and qualitative aspects of a decision.
  - (c) Incremental costs are irrelevant costs for decision making.
  - (d) In meat processing; bones, offals and blood are considered as by-products.
- (vii) Which of the following is false?
- (a) Idle time variance can sometimes be a favourable variance.
  - (b) Factors to consider before investigating a variance include the materiality of the variance, the trend and nature of standard in use.
  - (c) All costs are controllable at some level in an organisation in the long run.
  - (d) The scrap value of normal loss is credited to the Process account
- (viii) Accountants assume that variable costs vary in a linear fashion with respect to level of activity. However, the following may be true in reality, except:
- (a) An inverse relationship may exist between costs and level of activity (e.g. advertising costs).
  - (b) The linearity may not hold beyond a certain level of activity ( it could be curvilinear or exponential).
  - (c) Fixed costs never change at all levels of activity.
  - (d) Variable costs may become stepped at a certain level of activity.
- (ix) Which of the following is false?
- (a) Even a favourable variance may be undesirable.
  - (b) A flexible budget is more useful to management as compared to a fixed budget.
  - (c) It is ethically correct for accountants to include a slack amount in the budget.
  - (d) A cash budget is a forecasting tool.

- (x) Which of the following is false?
- (a) A management accountant works as a gatekeeper to an organisation.
  - (b) A management accountant helps senior management to plan, organise, co-ordinate and control an organisation's activities.
  - (c) The input to process A was 1000 kg of raw material. The normal process loss is 20%. In a certain period the output was 850kg. This implies that there was an abnormal loss in the period.
  - (d) According to Activity Based Costing Principles, its not products that cause costs but activities do.

*Use the following production plan (in units) to answer questions (xi) – (xiii).*

Period	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Opening inventory	100	?	?	?
Production	<u>?</u>	<u>100</u>	<u>?</u>	<u>60</u>
Closing inventory	<u>20</u>	<u>?</u>	<u>50</u>	<u>30</u>
Sales	<u>200</u>	<u>80</u>	<u>150</u>	<u>?</u>

- (xi) Opening inventories for periods 1 to 4 when added amount to....units.
- (a) 210
  - (b) 250
  - (c) 190
  - (d) 230
- (xii) Production in period 3 amount to....units.
- (a) 200.
  - (b) 160.
  - (c) 140.
  - (d) 100.
- (xiii) Sales in period 4 amount to....units.
- (a) 90.
  - (b) 30.
  - (c) 130.
  - (d) 80.

*Use the following information to answer questions (xiv) – (xv)*

The management of M/S Enter Wakiso.Com price their product on the basis of either full cost plus or marginal cost plus. In a particular period the cost structure of their product was as follows:-

	<b>Shs.</b>
Material cost per unit	15,000
Labour costs @Shs.5000 per hour	20,000
Variable overheads per unit	5,000
Fixed overheads per unit	30,000

- (xiv) What is the selling price under full cost plus 10% policy.
- (a) 80,000
  - (b) 77,000
  - (c) 88,000
  - (d) 99,000
- (xv) What would the selling price be if the policy was to fetch a gross margin of 10%?
- (a) 77,000
  - (b) 44,000
  - (c) 77,778
  - (d) 88,889
- (xvi) Which of the following are characteristics of job costing?
- (i) Homogeneous products.
  - (ii) Customer driven production.
  - (iii) Complete production possible within a single accounting period.
- (a) (i), (ii) and (iii).
  - (b) (i) and (ii).
  - (c) (ii) and (iii).
  - (d) (i) and (iii).
- (xvii) Which of the following are characteristics of Contract Costing?
- (i) Homogenous products.
  - (ii) Customer driven production.
  - (iii) Short time scale from commencement to completion of the cost unit.
- (a) None of the above.
  - (b) (i) and (ii).
  - (c) (ii) and (iii).
  - (d) (ii) only

- (xviii) A company absorbs overheads on machine hours which were budgeted at 11,250 with overheads of Shs.258,750. Actual results were 10,980 hours with overheads of Shs.254,692. The overheads were:-
- (a) Under-absorbed by Shs.2,152.
  - (b) Over-absorbed by Shs.4,058.
  - (c) Under-absorbed by Shs.4,058.
  - (d) Over-absorbed by Shs.2,152.
- (xix) Prime cost is:-
- (a) All costs incurred in manufacturing a product.
  - (b) The total of direct costs.
  - (c) The material cost of a product.
  - (d) The cost of operating a department.
- (xx) A Company made 17,500 units at a total cost of Shs. 16 each. Three quarters of the costs were variable and one quarter fixed. 15,000 units were sold at Shs.25 each. There was no opening inventory.

By how much will the profit calculated using absorption costing principles differ from the profit if marginal costing principles had been used.

- (a) The absorption costing profit would be Shs.22,500 less.
- (b) The absorption costing profit would be Shs.10,000 greater.
- (c) The absorption costing profit would be Shs.135,000 greater.
- (d) The absorption costing profit would be Shs.10,000 less.

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

Your friend Tingasiga Okot, the principal of **No Pass No Pay Accountancy College** is planning to introduce the ATC Programme next semester. He has approached you to advise him on the financial implications of his plans for the first year of operation. He informs you that his staff structure will be as follows:-

- Principal
- A deputy principal for administration
- Head of accounting department
- Head of business studies department and teaching staff under each department.

Projected information given to you for the first year is as follows:-

Level	Number of students	Fees per Student (Shs.)
I	60	80,000
II	120	120,000
III	100	160,000

For levels I and II there will be 30 students in each class and 15 students in each class of level III. The college year will consist of 30 weeks tuition and each class will have the following:-

Level	Tuition hours per week	Cost per class hour (Shs.)
I	16	800
II	20	1,000
III	22	1,200

**Required:**

- (a) Prepare budgets showing the following information for the college's first year of operation.
- (i) College Revenue by level and in total.
  - (ii) Number of classes required at each level.
  - (iii) Tuition costs for each level and in total.
  - (iv) Total student hours and the tuition cost per student hour at each level.

**(14 marks)**



- (b) You are also told that other costs include the following:

	<b>Shs.</b>
Rental of college premises	6,000,000
Administrative salaries	1,560,000
Administrative costs	9,600,000
Welfare expenses	4,800,000
Examination fees	1,200,000

All tuition fees are collectable with the exception of 2% that are expected to be bad debts and 5% of the administrative costs are for depreciation. All the remaining budgeted expenses are to be paid.

**Required:-**

Prepare a cash budget for the year advising the principal upon the outcome and possible courses of action open to him in case of a cash shortage.

**(11 marks)**

**(Total 25 marks)**

**Question 3**

Process Costing is a costing method used where it is not possible to identify separate units of production, or jobs, usually because of the continuous nature of the production process involved.

You have been asked to provide information to the Masese Fish Processors Group about process costing.

- (a) Outline the characteristics of industries in which a process costing system is used and give two examples of such industries. **(5 marks)**
- (b) Distinguish between normal and abnormal losses, their costing treatment and how each loss may be controlled. **(6 marks)**
- (c) Compare and contrast a joint product with a by-product. **(4 marks)**
- (d) Masese Foods Ltd. a subsidiary of the group produces product – “Humberger” by putting it through a single process. You are given the following details for December 2001.

**Input Costs:**

Material costs	12,000kg at Shs 200 per kg
Labour costs	5,000 hours at Shs 480 per hour
Overhead costs	Shs 5,400,000

Additional information:

- Normal loss is 5% of input.
- Finished output amounted to 6,000 units.
- Closing work in progress amounted to 4,000 units and was fully complete for material, 2/3 complete for labour and ½ for overheads.
- There was no opening work in progress.

**Required:-**

Prepare the process account for the month of December 2001 detailing the value of the finished units and the work in progress.

**(10 marks)**  
**(Total 25 marks)**

**Question 4**

Tick Hotel in Kawempe is developing a cost accounting system. Initially it has been decided to create 4 (four) cost centres: Residential and Catering dealing directly with customers whilst Housing and Maintenance are Internal service cost centres.

The following overhead details have been estimated for the next period.

	<b>Residential</b>	<b>Catering</b>	<b>House-keeping</b>	<b>Maintenance</b>	<b>Total</b>
	<b>Shs.</b>	<b>Shs.</b>	<b>Shs.</b>	<b>Shs.</b>	<b>Shs.</b>
Consumable materials	14,000,000	23,000,000	27,000,000	9,000,000	73,000,000
Staff costs	16,500,000	13,000,000	11,500,000	5,500,000	46,500,000
Rent and rates					37,500,000
Contents Insurance					14,000,000
Heating & Lighting					18,500,000
Depreciation on equipment					<u>37,500,000</u>
					<u>227,000,000</u>

The following information is also available:-

	<b>Residential</b>	<b>Catering</b>	<b>Housekeeping</b>	<b>Maintenance</b>	<b>Total</b>
Floor area (m2)	2,750	1,350	600	300	5,000
Value of equipment	350,000,000	250,000,000	75,000,000	75,000,000	750,000,000
No. of employees	20	20	15	5	60

In the period it is estimated that there will be 2,800 guest-nights and 16,000 meals will be served. Housekeeping works 70% for Residential and 30% for Catering, and Maintenance works 20% for Housekeeping, 30% for Catering and 50% for Residential.

**Required:**

- Prepare an overhead statement showing clearly allocations and apportionments for each cost centre.  
(8 marks)
  - Calculate the appropriate overhead absorption rates for Residential and Catering.  
(4 marks)
  - Calculate the under/over absorption of overheads if actual results were as follows:-  
Residential : 3,050 guest-nights with overheads of Shs.144,600,000.  
Catering : 15,250 meals with overheads of Shs.89,250,000.  
(6 marks)
  - Briefly explain what causes labour turnover and list the costs of labour turnover.  
(7 marks)
- (Total 25 marks)**

**SECTION C**

**Question 5**

Ore Uganda Ltd. manufactures 4 products A,B,C and D. Output data for the period is as follows:-

<b>Product</b>	<b>No. of Set Ups</b>	<b>No. of Production runs</b>	<b>Output (units)</b>
A	1	2	10
B	3	3	20
C	7	10	50
D	10	20	200

Overhead costs amount to Shs.61,600,000 for the period and are as follows:-

Description	Amount (Shs)
Set up costs	21,000,000
Material handling costs	15,400,000
Short-run variable costs	7,000,000
Scheduling	18,200,000

Direct labour cost is Shs.5,000 per hour. Other cost data is given below:-

Product	Material cost per unit (Shs.)	Labour hours per unit	Machine hours per unit
A	20,000	2	3
B	60,000	4	9
C	20,000	2	3
D	100,000	6	6

**Required:**

- (a) Using Activity Based Costing (ABC) determine the total Cost per unit for each product. You may assume that the cost driver for short run variable costs is labour hours.

**(10 marks)**

- (b) Determine the cost per unit for each product using absorption costing.

**(5 marks)**

**(Total 15 marks)**

**Question 6**

Merit (U) Ltd. uses a standard costing system which produces monthly control statements to monitor and control costs. One of their products is "Zedex". To manufacture product "Zedex", a perishable high quality raw material is carefully weighed by direct employees. Some wastage and quality control rejects occur at this stage. The employees then compress the material to change its shape and create product "Zedex". All direct employees are paid a basic hourly rate appropriate to their individual skill level, and a bonus scheme is in operation. Bonuses are paid according to the daily rate of output achieved by each individual.

A standard allowance for all the above operational factors is included in the standard cost of product "Zedex". Standard cost data for one unit of product "Zedex" is as follows:-

	<b>Standard Cost per unit (Shs)</b>
Direct Material (W) 4kg @ Shs.4,900 per kg	19,600
Direct labour 10 hours @ Shs 3,500 per hour	<u>35,000</u>
Standard Direct Cost	<u>54,600</u>

During January 2001, the following costs were incurred in the production of 600 units of “Zedex”

	<b>Actual Cost (Shs.)</b>
Direct Material (W) 2,600Kg	13,000,000
Direct Labour 5,400hours	<u>19,980,000</u>
Actual Direct Cost	<u>32,980,000</u>

**Required:-**

- (a) Calculate the following direct cost variances for product “Zedex” for January 2001.

- (i) Direct Material price.
- (ii) Direct material usage.
- (iii) Direct labour rate.
- (iv) Direct labour efficiency.

**(9 marks)**

- (b) Write a memo to management explaining two possible causes of:-

- (i) Direct material price variance.
- (ii) Direct labour rate variance.
- (iii) Direct labour efficiency variance.

**(6 marks)**

**(Total 15 marks)**

**Question 7**

- (a) Al-Jazzerra Manufacturers Ltd. is a subsidiary of AL-Jazzerra Group based in Asia. Due to the current crisis in Afghanistan the company has failed to collect a huge sum of money from its business partners and is considering closing non-core business lines.

The Finance Manager has learnt that you are an ATC finalist and has requested for your advice on this business decision.

**Required:**

Write to management advising on the factors to put into consideration before closing the non-core business lines.

**(7 marks)**

(b) Write short notes on the following:

(i) Budgetary slack.

**(2 marks)**

(ii) Decision packages (under ABC).

**(3 marks)**

(iii) Margin of safety.

**(3 marks)**

**(Total 15 marks)**