# JULY 2023 PROFESSIONAL EXAMINATION
# MANAGEMENT ACCOUNTING (PAPER 2.2)
# CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME

**EXAMINER'S GENERAL COMMENTS**

This report is focused on the evaluation of the management accounting paper written in the July 2023 professional examination. The questions were fairly balanced in terms of spread over the syllabus and were not beyond the competence of candidates. The overall performance was better than the previous diet but there is still room for improvement.

**STANDARD OF THE PAPER**

The standard was an improvement over the previous diet. Over all, the standard and quality of questions were excellent. The questions were straight forward, unambiguous, clear and error-free. The five questions have a wide coverage of the syllabus, with appropriate marks allocated which is also in line with the syllabus. The questions have a good balance of theory and practice and the time allotted is appropriate for the task at hand. Detailed supporting information is provided for each question. An appropriate level of testing in accordance with the Bloom's taxonomy is achieved and all questions reflect the inherent difficulty of the level of qualification (application) and the requirement to attain professional competence.

**PERFORMANCE OF CANDIDATES**

Though there was an improvement in the performance of candidates it could have been better. The performance seems to be concentrated. For instance, in a pack of 40 scripts more than 50% of the candidates could pass with very high scores while another pack can have 10% or even less passing with generally low scores.
No signs of copying were observed. Generally, the questions were within the competence of an average candidate. Those who scored good marks were better prepared because their scores spread over all the questions. There were others who were however ill prepared.

**NOTABLE STRENGHTS AND WEAKNESSES.**

The performance of candidates in Performance Appraisal was average. However that of standard costing and Variance analysis was very good. Those who attempted Investment Appraisal and Activity Based Costing questions scored some good marks. Performance in question on decision making technique relevant to short term decisions was encouraging.

Those who prepared scored very good marks in these areas, which may be partly attributed to the clarity of the questions compared to the previous sitting. A focus on understanding and application of the principles rather than testing of mathematical competence of candidates can go a long way to improve performance. A few areas that candidates need to improve are preparation of debtors and creditors collection schedules under cash budget. It was observed that some candidates did not prepare adequately for the paper.

## QUESTION ONE

Kenkah Ltd provides buffer storage for many companies throughout the country. The company has two divisions namely Abura and Keta. Each division is autonomous and makes its own long –term investment decision.

Kenkah Ltd measures the performance of its divisions using Return on Investment (ROI), calculated using controllable profit and average divisional net assets. The company has a cost of capital of 12% but a targeted ROI of 18%. The divisional managers' annual bonus is determined by the extent to which the ROI earned by the division exceeds the target.

At the beginning of the year, the two divisions Abura and Keta, bought assets worth GH¢12.5 million and GH¢18.2 million respectively. The assets have a five year life span with no residual value. The company uses straight line depreciation method. The other assets are being controlled by head office.

Over the years, Kenkah Ltd uses ROI in evaluating the performance of managers. However, to discourage dysfunctional behaviour, Kenkah Ltd is considering introducing Residual Income (RI) as a performance measure. Like ROI, RI is calculated using controllable profit and average divisional asset.

The current year's draft operating statement is shown below:

| | Abura | Keta |
|---|---|---|
| | **GH¢000** | **GH¢000** |
| Sales | 15,350 | 17,020 |
| Les controllable Variable Cost | 7,505 | 8,950 |
| Contribution | 7,845 | 8,070 |
| Less Fixed Cost [i) &ii)] | 6,335 | 6,910 |
| **Profit** | **1,510** | **1,160** |

**Additional information:**

i) Included in fixed cost are the current year depreciation charge of GH¢3,125,000 and GH¢4,550,000 for division Abura and Keta respectively. Twenty percent (20%) of the depreciation cost in each division is from assets owned and controlled by the head office.

ii) Head office allocates some of its overhead cost to the two divisions using activity based costing. These costs have been included in the fixed cost and amounted to GH¢210,000 and GH¢230,000 for Abura and Keta respectively.

iii) The Management Accountant stated at a recent board meeting that "***Responsibility accounting is based on the application of the controllability principle***". Hence he would resist any attempt by management to deviate from this basic principle.

**Required:**

a) Explain the "***controllability principle***" and why its application is difficult in practice. **(4 marks)**

b) Calculate current year controllable profit for both divisions of Kenkah Ltd. **(4 marks)**

c) Calculate the current year **ROI** for each of the two divisions of Kenkah Ltd. **(3 marks)**

d) Calculate the current year **RI** for each of the two divisions of Kenkah Ltd. **(4 marks)**

e) Discuss the performance of the two divisions for the year. **(5 marks)**

**(Total: 20 marks)**

## QUESTION TWO

a) Bekwai manufactures and sells a single product. The company operates a standard marginal costing system and a just-in-time purchasing and production system. No inventory of raw materials or finished goods is held.

Details of the budget and actual data for the period are as follows:

**Budget data**

Standard production cost per unit:

| | | GH¢ |
|---|---|---|
| Direct material: | 8kg @ GH¢10.80 per kg | 86.40 |
| Direct labour: | 1.25 hours @ GH¢18.00 per hour | 22.50 |
| Variable overheads: | 1.25 hours @GH¢6.00 per direct labour hour | 7.50 |

Standard selling price: GH¢180 per unit
Budgeted fixed production overheads: GH¢170,000
Budgeted production and sales: 10,000 units

**Actual data**

Direct material: 74,000 kg @ GH¢11.20 per kg
Direct labour: 10,800 hours @ GH¢19.00 per hour
Variable overheads: GH¢70,000
Actual selling price: GH¢184 per unit
Actual fixed production overheads: GH¢168,000
Actual production and sales: 9,000 units

**Required:**

Using marginal costing principles, prepare a statement that reconciles the budgeted contribution and the actual contribution. (Your statement should show the variances in as much detail as possible). **(15 marks)**

b) Total Quality Management ensures that all components of an industry work together with good to improve the quality of its services and products.

**Required:**

Explain **THREE (3)** features of Total Quality Management. **(5 marks)**

**(Total: 20 marks)**

## QUESTION THREE

a) The following three products are produced by a company under the "1D1F" policy with additional information provided.

| **Product** | **Cee** | **Dee** | **Gee** |
|---|---:|---:|---:|
| Units | 4,000 | 6,000 | 4,800 |
| Labour hours per unit | 3 | 2.5 | 1.5 |
| Number of units in a batch | 400 | 500 | 600 |
| Number of machine hours per unit | 4 | 5 | 7 |

The annual overheads have been grouped under three headings:

| | **GH¢** |
|---|---:|
| Labour related | 45,000 |
| Batch related | 69,000 |
| Machine related | 120,000 |

**Required:**

ii) Using the Activity Based Costing (ABC) technique, calculate the Cost Driver Rates for each group of overheads. **(6 marks)**

iii) Calculate the overhead cost per unit of product "Cee" under the ABC technique. **(4 marks)**

b) An extract from the accounts of GoGo Ltd for the last quarter of 2022 is as follows:

| | **GH¢** | **GH¢** |
|---|---:|---:|
| **Current Asset** | | |
| Inventory | | 15,000 |
| Debtors: | | |
| November | 20,000 | |
| December | 19,000 | 39,000 |
| Cash in hand and at Bank | | 24,150 |
| | | |
| **Current Liabilities** | | |
| Creditors (raw materials) | | 20,050 |
| Owings | | 3,600 |

**Additional Information:**

i) The following are the relevant data for the company for 2023.

| | **January** | **February** | **March** | **April** |
|---|---:|---:|---:|---:|
| Sales units | 50,000 | 60,000 | 70,000 | 80,000 |
| Purchase of raw materials (in kgs) | 25,000 | 35,000 | 40,000 | 40,000 |
| Production units | 45,000 | 60,000 | 68,000 | 80,000 |
| Fixed Overheads | GH¢5,000 | GH¢5,000 | GH¢5,000 | GH¢5,000 |

The selling price for the products is expected to be GH¢2.5 for the first quarter of 2023. Generally, 60% of sales is collected in the month of sale while 35% is collected in the following month, with the remaining debts declared as bad thereon. The company introduced a debt recovery strategy in the third quarter of 2022 which yielded a collection of 75% of outstanding debts in the first month after being declared as bad debt.

ii) One kilogramme of the raw material can be used to produce two products. A kilogramme of the raw material cost GH¢1.30. Due to an anticipated shortage in raw materials, the company plans to pay for all purchases of raw materials, one month ahead of time.

iii) Wages and variable production overheads are charged at GH¢0.50 and GH¢0.25 respectively per unit produced. Wages and all overheads are paid in the month in which they are incurred. Included in fixed overheads is a monthly depreciation of GH¢750. All other owings are due for payment in the month of January.

**Required:**
Prepare the monthly cash budget for the first quarter of 2023, showing the sub-totals.
**(10 marks)**

**(Total: 20 marks)**

## QUESTION FOUR

a) Johnson & Co is a medium sized company that is engaged in delivery services. As a result of the recent increase in the demand for services, the Managing Director (MD) is planning for the future business performance. The MD plans to acquire a delivery van at the cost of GH¢85,000. The expected net cash flow per year are as follows:

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|
| **GH¢** | **GH¢** | **GH¢** | **GH¢** | **GH¢** |
| 25,000 | 28,000 | 39,000 | 34,000 | 24,000 |

The Sales Manager has indicated to the MD that he will recoup his investment in less than four years and for that reason, it's a good investment.

The Management Accountant has however drawn his attention to the fact that the manager has not factored time value of money and the cost of capital in his analysis. He could not however suggest the cost of capital since financial institutions are charging different interest rates.

**Required:**

i) Calculate the cost of capital when used would result in a break-even, when the useful life of the van is five years with residual value of GH¢8,500. **(11 marks)**

ii) Using **TWO (2)** points each, compare and contrast the payback method of investment appraisal and the discounted cash flow method. **(4 marks)**

b) It is argued that the extent of budget performance is influenced largely by the extent of involvement of all persons connected with the budgeting process.

**Required:**
Outline **THREE (3)** advantages and **TWO (2)** disadvantages of employee participation in budgeting. **(5 marks)**

**(Total: 20 marks)**

## QUESTION FIVE

You are the Management Accountant for Darkoah Publishing Ltd which has been asked to send a quotation for the production of a programme for the local village fair. The work would be carried out in addition to the normal work of the company. Because of existing commitments, employees would be required to work during weekends to complete the printing of the programme. A trainee accountant has produced the following cost estimate based upon the resources required as specified by the production manager:

| | | | GH¢ |
|---|---|---|---|
| Direct materials | − Paper (book value) | | 5,000 |
| | − Inks (purchase price) | | 2,400 |
| Direct labour | − Skilled | 250 hours @ GH¢4.00 | 1,000 |
| | − Unskilled | 100 hours @ GH¢3.50 | 350 |
| Variable overhead | | 350 hours @ GH¢4.00 | 1,400 |
| Printing press depreciation | | 200 hours @ GH¢2.50 | 500 |
| Fixed production costs | | 350 hours @ GH¢6.00 | 2,100 |
| Estimating department costs | | | 400 |
| **Total** | | | **13,150** |

You are aware that considerable publicity could be obtained for the company if you are able to win this order, and the price quoted must be very competitive.

The following notes are relevant to the cost estimate above:

i) The paper to be used is currently in stock at a value of GH¢5,000. It is of an unusual colour and has not been used for some time. The replacement price of the paper is GH¢8,000, whilst the scrap value of what is in stock is GH¢2,500. The production manager does not foresee any alternative use for the paper if it is not used for the village fair programme.

ii) The inks required are not held in stock. They would have to be purchased in bulk at a cost of GH¢3,000. However, only 80% of the ink purchased would be used in printing the programme. No other use is foreseen for the remainder.

iii) Skilled direct labour is currently at full capacity, but additional labour can be hired. To accommodate the printing of the programmes, 50% of the time required would be worked at weekends, for which a premium of 25% above the normal hourly rate is paid. The normal hourly rate is GH¢4.00 per hour.

iv) Unskilled labour is presently under-utilised, and at present 200 hours per week are recorded as idle time. If the printing work is carried out at a weekend, 25 unskilled labour hours would have to occur at this time, but the employees concerned would be given two hours' time off (for which they would be paid) in lieu of each hour worked.

v) Variable overhead represents the cost of operating the printing press and binding machines.

vi) When not being used by the company, the printing press is hired to outside companies for GH¢6.00 per hour. This earns a contribution of GH¢3.00 per hour. There is unlimited demand for this facility.

vii) Fixed production costs are those incurred by and absorbed into production, using an hourly rate based on budgeted activity.

viii) The cost of the estimating department represents time that has already been incurred during discussions with the village fair committee concerning the printing of its programme.

**Required:**

a) Prepare a revised cost estimate using a relevant cash flow approach, showing clearly the minimum price that the company should accept for the order. Give reasons for each resource valuation in your cost estimate. **(17 marks)**

b) Briefly discuss the statement "***fixed costs are never relevant for decision making scenarios***". **(3 marks)**

**(Total: 20 marks)**

**SOLUTION TO QUESTIONS**

**QUESTION ONE**

a) **Controllability** is defined as "the degree of influence that a specific manager has over costs, revenues, investments or other items in question".

The controllability principle is that managers should only be held responsible for costs, revenue, profit or investment that they have direct control over. So, for example, a divisional manager would not be held responsible for the allocation of central costs or cost of depreciation to her department if she has no control over the incurrence or magnitude of these costs. Under this principle, it would be held that dysfunctional consequences would arise if managers were held accountable for costs over which they have no control.

Holding managers accountable/responsible for cost outside their control may encourage them to become more involved with such issues and as a result, the total cost may be reduced or the goods or services may be provided more efficiently.

However, there is difficulty in classification or drawing the line between cost which is controllable and cost which is uncontrollable.
Furthermore, holding managers responsible for items outside their control may be demotivating.

**(4 marks)**

b) Current year controllable profit

| | Abura | Keta |
|---|---|---|
| | **GH¢000** | **GH¢000** |
| Sales | 15,350 | 17,020 |
| Less Variable cost | 7,505 | 8,950 |
| | 7,845 | 8,070 |
| Less: Division Depreciation** | (2,500) | (3,640) |
| Other Overheads** | (3,000) | (2,130) |
| | **2,345** | **2,300** |

Notes:

| | | |
|---|---|---|
| Depreciation | 80% of (3125) | 80% of (4,550) |
| Other Overhead | 6335-(3125+210) | (6910-(4550+230) |

**Alternative Solution**

| | Abura | Keta |
|---|---|---|
| | **GH¢000** | **GH¢000** |
| Net profit | 1510 | 1160 |
| Add back HQ depreciation (w1) | 625 | 910 |
| Add back HO Overhead cost | 210 | 230 |
| **Controllable profit** | **2,345** | **2300** |

**Workings:**

1. Divisions: 20% x 3,125,000 = 625,000 20% x 4,550,000 = 910,000

**(4 marks)**

| | | | |
|---|---|---|---|
| c) | **ROI** | 2,345 / (12,500+10,000)/2 | 2,300 / (18,200 + 14,560)/2 |
| | | **20.84%** | **14.04%** |

**(3 marks)**

| | | | | |
|---|---|---|---|---|
| d) | Controllable profit | 2,345 | | 2,300 |
| | Less imputed interest 11,250 x0.12 | 1,350 | 16,380x0.12 | 1,965.60 |
| | **RI** | **995** | | **334.40** |

**(4 marks)**

e) **Comments**

If a decision about whether to proceed with the investments is made based on ROI, it is possible that the manager of Division Keta will reject the proposal whereas the manager of Division Abura will accept the proposal. This is because while division Abura has a ROI of 20.84% higher than target of 18% which entitle the manager to a bonus, Division Keta would reject the investment because its ROI is 14.04% and lower than target of 18% for that matter not entitled to bonus.

If they used residual income in order to aid the decision-making process, both proposals would be accepted by the divisions since both have a positive RI.

**(5 marks)**

**(Total: 20 marks)**

**EXAMINER'S COMMENTS**

This question was fairly attempted by most of the candidates.

The controllable principle was fairly understood by most candidates who attempted it. Some had problems assigning reason for why it may be difficult to implement in practice.

The question excluded information on net current assets which limited the capital employed needed for the calculation of ROI and RI to the fixed assets. This does not reflect the real concept of capital employed. That, not- withstanding, candidates demonstrated understanding of the principles. Some of the candidates had a challenge separating the fixed cost into controllable and non-controllable. Others also used the opening or net book value of the fixed assets instead of the average.The interpretation of the outcome was generally consistent with calculation done. Performance was average.

**QUESTION TWO**

a) Actual Contribution

| | | GH¢ |
|---|---|---|
| Sales (9000 x 184) | | 1,656,000 |
| Less: | | |
| Direct Material (74000 x 11.20) | 828,800 | |
| Direct Labour (10800 x 19) | 205,200 | |
| Variable overheads | 70,000 | (1,104,000) |
| | | **552,000** |

**VARIANCES**

| | |
|---|---|
| Sales Price Variance | (Standard Contribution – Actual Contribution) Actual Quantity Sold<br>(63.6 – 67.6)9000 = GH¢36,000 F |
| Sales Volume Variance | (Budgeted Quantity – Actual Quantity) Standard Contribution<br>(10,000 – 9,000) 63.6 = GH¢63,600 A |
| Direct Material Price Variance | (Standard Price – Actual Price) Actual Quantity<br>(10.80 – 11.20) 74,000 = GH¢29,600 A |
| Direct Material Usage Variance | (Standard Quantity – Actual Quantity) Standard Price<br>(72,000 – 74,000) 10.80 = GH¢21,600 A |
| Direct Labour Rate Variance | (Standard Rate – Actual Rate) Actual Hours<br>(18 – 19) 10,800 = GH¢10,800 A |
| Direct Labour Efficiency Variance | (Standard Hours – Actual Hours) Standard Rate<br>(11,250 – 10,800) 18 = GH¢8,100 F |
| Variable Overhead Expenditure Variance | (Standard Rate x Actual Hours – Actual Overhead)<br>(64,800 – 70,000) = GH¢5,200 A |
| Variable Overhead Efficiency Variance | (Standard Hours – Actual Hours) Standard Rate<br>(11,250 – 10,800) 6 = GH¢2,700 F |

**A Statement Reconciling Budgeted Contribution and The Actual Contribution**

| | GH¢ | GH¢ | GH¢ |
|---|---|---|---|
| Budgeted contribution | | | 636,000 |
| Sales volume contribution variance (9,000 units - 10,000 units) x GH¢63.60 | | | 63,600 A |
| Selling price variance 9,000 units x ($184 - GH¢180) | | | 36,000 F |

| | | | 608,400 |
|---|---|---|---|
| **Cost Variances** | **F** | **A** | |
| Direct material price variance<br>74,000 kg x ($10.80 – GH¢11.20) | | 29,600 | |
| Direct material usage variance<br>((9,000 x 8 kg) – 74,000 kg) x GH¢10.80 | | 21,600 | |
| Direct labour rate variance<br>10,800 x ($18.00 - GH¢19.00) | | 10,800 | |
| Direct labour efficiency variance<br>((9,000 x 1.25) – 10,800) x GH¢18.00 | 8,100 | | |
| Variable overhead expenditure variance<br>(10,800 hours x GH¢6) - GH¢70,000 | | 5,200 | |
| Variable overhead efficiency variance<br>((9,000 x 1.25) – 10,800) x GH¢6.00 | 2,700 | | |
| | 10,800 | 67,200 | 56,400 A |
| **Actual Contribution** | | | **552,000** |

Budgeted Profit

| | GH¢ |
|---|---|
| Budgeted Contribution | 636,000 |
| Budgeted Fixed Cost | (170,000) |
| | 466,000 |

| | |
|---|---|
| Sales Volume Profit Variance | (Budgeted Quantity – Actual Quantity) Standard Profit |
| | (10,000 – 9,000) 46.6 = 46,600 A |
| Fixed Overhead Expenditure Variance | (Budgeted Fixed Overhead – Actual Fixed Overhead) |
| | (170,000 – 168,000) = GH¢2000 F |
| Fixed Overhead Volume Variance | (Actual Production Overhead – Budgeted Fixed Overhead) |
| | (17 x 9,000 – 170,000) = GH¢17,000 A |

Note: Standard Profit/Unit

| | | GH¢ |
|---|---|---|
| Selling Price | | 180 |
| Standard Cost | 116.4 | |
| Fixed Overhead | 17 | (133.4) |
| | | 46.6 |

**(Marks are evenly spread using ticks = 15 marks)**

b) Features of TQM

- Avoid mistakes, get things right the first time.
- It is applied to every process in the organization.
- It should involve all employees.
- All quality related cost should be measured and controlled.
- In the long term it should cost less to prevent defects.
- Systems to improve quality should be established

**(Any 3 points @ 1.667 marks each = 5 marks)**

**(Total: 20 marks)**

**EXAMINER'S COMMENTS**

Performance here was very good, most of the candidates were able to calculate the variances. What some failed to do was the determination of the actual profit which was needed for the reconciliation statement. A few calculated the fixed overhead variances, though the requirement asked for marginal costing principles, for which no marks were awarded.

Some candidates wasted time on explaining the concept of total quality management instead of explaining the features. The performance was good.

**QUESTION THREE**

a)

i) Cost Driver Rates:

Labour related,

| | | |
|---|---|---|
| Cee | 4,000×3 = | 12,000 |
| Dee | 6,000×2.5 = | 15,000 |
| Gee | 4,800×1.5 = | 7,200 |
| Total labour hrs. | | **34,200** |

Cost driver rate => GH¢45,000÷34,200 = GH¢1.32 per labour hour.

Batch related;

| | | |
|---|---|---|
| Cee | 4,000 ÷ 400 = | 10 |
| Dee | 6,000 ÷ 500 = | 12 |
| Gee | 4,800 ÷ 600 = | 8 |
| Total no. of batches | | **30** |

Cost driver rate => GH¢ 69,000÷30 = GH¢ 2,300 per batch

Machine related;

| | | |
|---|---|---|
| Cee | 4,000×4 = | 16,000 |
| Dee | 6,000×5 = | 30,000 |
| Gee | 4,800×7 = | 33,600 |
| Total machine hours | | **79,600** |

Cost driver rate => GH¢ 120,000÷79,600= GH¢1.51 per machine hour.

**(6 marks)**

ii) Overhead cost of a unit of product "Cee"

| | | **GH¢** |
|---|---|---|
| Labour related | 3 hours× GH¢1.32 = | 3.96 |
| Batch related | GH¢ 2300÷400 = | 5.75 |
| Machine related | 4 hours × GH¢1.51 = | 6.04 |
| Total | | **15.75** |

**(4 marks)**

b) GoGo Ltd

Cash Budget for the first Quarter of the Ensuing Year

| | **January** | **February** | **March** | **Sub-total** |
|---|---|---|---|---|
| Receipt | **GH¢** | **GH¢** | **GH¢** | **GH¢** |
| Cash from Sales and Debtors | 93,500 | 135531.25 | 162,187.5 | 391,218.75 |
| | | | | |
| Payments | | | | |
| Raw material | 65,550 | 52,000 | 52,000 | 169,550 |
| Wages | 22,500 | 30,000 | 34,000 | 86,500 |
| Variable overhead | 11,250 | 15,000 | 17,000 | 43,250 |
| Fixed overhead | 4,250 | 4,250 | 4,250 | 12,750 |
| Owings | 3,600 | | | 3,600 |
| | **107,150** | **101,250** | **107,250** | **3165,650** |

| | | | | |
|---|---|---|---|---|
| | | | | |
| Balance b/d | 24,150 | 8,312.5 | 42359.38 | 24,150.00 |
| Difference | (13,650) | 34,281.25 | 54,937.5 | 75,568.75 |
| **Balance c/d** | **8,312.5** | **42,359.38** | **95,996.88** | **95,996.88** |

**(4 marks)**

**Workings:**

Debtors' Collection Schedule

| | December | January | February | March |
|---|---|---|---|---|
| ***November Debtors*** | **GH¢** | **GH¢** | **GH¢** | **GH¢** |
| Debtors represent 40% of total sales, therefore, 100% will be 100/40 x GH¢20,000 = GH¢50,000 | | | | |
| 35% x GH¢50,000 | 17,500 | | | |
| 75% X 5% X GH¢50,000 | | 1,875.00 | | |
| ***December Debtors*** | | | | |
| November debtors included in December debtors = 5% x GH¢50,000 = GH¢2,500 | | | | |
| November Sales 20,000/0.4 = 50,000<br>December = 19,000/0.4 =47,500<br><br>Bad debt recovered = (5% of sales X 0.75) | | | | |
| 35% x GH¢47,500 = | | 16,625 | | |
| 75% x 5% x GH¢47,500 = | | | 1,781.25 | |
| ***January Sales*** | | | | |
| 1st 60% (50,000 x GH¢2.5 = GH¢125,000) | | 75,000 | | |
| 2nd 35% (50,000 x GH¢2.5 = GH¢125,000) | | | 43,750 | |
| 3rd 75% x 5% x (50,000 x GH¢2.5 = GH¢125,000) | | | | 4,687.50 |
| ***February Sales*** | | | | |
| 1st 60% (60,000 x GH¢2.5 = GH¢150,000) | | | 90,000 | |
| 2nd 35% (60,000 x GH¢2.5 = GH¢150,000) | | | | 52,500 |
| ***March Sales*** | | | | |
| 1st 60% (70,000 x GH¢2.5 = GH¢175,000) | | | | 105,000 |
| **Totals** | | **93,500** | **135,531.25** | **162,187.5** |

**(4 marks)**

**Creditors' payment schedule**

| | December | January | February | March | April |
|---|---|---|---|---|---|
| Purchases | | 25,000 x GH¢1.3 = GH¢32,500 | 35,000 x GH¢1.3 = GH¢45,500 | 40,000 x GH¢1.3 = GH¢52,000 | 40,000 x GH¢1.3 = GH¢52,000 |
| **Payment** | **GH¢32,500** | GH¢45,500+GH¢20,050 **= GH¢65,550** | **GH¢52,000** | **GH¢53,300** | |

**(2 mark)**

**(Total: 20 marks)**

**EXAMINER'S COMMENTS**

The a) part of the question was quite simple and most of the candidates were able to compute the cost driver rates. The responses from candidates showed that they understood the requirement. Most candidates used the total approach to determine the overhead cost per unit.The scores were very good.

For sub-question b), candidates demonstrated understanding of the preparation of cash budget. The challenge that some candidates faced was the preparation of the debtors and creditors collection schedules that converts sales to cash collection and purchases to cash payments.

**QUESTION FOUR**

a)

i) Johnson & Co

Using Internal Rate of Return would result in a break even

NPV @ 20%

| Year | **0** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|---|
| Initial Investment | (85,000) | | | | | |
| Netflow | | 25,000 | 28,000 | 39,000 | 34,000 | 24,000 |
| Scrap | | | | | | 8,500 |
| Free Cashflow | (85,000) | 25,000 | 28,000 | 39,000 | 34,000 | 32,500 |
| DCF (15%) | 1.00 | 0.833 | 0.694 | 0.579 | 0.482 | 0.402 |
| PV | (85,000) | 20,825 | 19,432 | 22,581 | 16,388 | 13,065 |
| | | | | | | |
| **NPV** | **7,291** | | | | | |

NPV @ 25%

| Year | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Initial Investment | (85,000) | | | | | |
| Netflow | | 25,000 | 28,000 | 39,000 | 34,000 | 24,000 |
| Scrap | | | | | | 8,500 |
| Free Cashflow | (85,000) | 25,000 | 28,000 | 39,000 | 34,000 | 32,500 |
| DCF (25%) | 1.00 | 0.800 | 0.640 | 0.512 | 0.410 | 0.328 |
| PV | (85,000) | 20,000 | 17,920 | 19,968 | 13,940 | 10,660 |
| | | | | | | |
| **NPV** | **(2512)** | | | | | |

$$IRR = r_a + \frac{NPV_a}{NPV_a - NPV_b}(r_b - r_a)$$

$r_a$ = lower discount rate chosen

$r_b$ = higher discount rate chosen

$N_a$ = NPV at $r_a$

$N_b$ = NPV at $r_b$

$$= 20 + \frac{(7{,}291)}{(7{,}291 - (-2512)}(25-20)$$

20 +3.72

IRR = 23.72%

**(11 marks evenly spread using ticks)**

**ii) Contrasting payback and discounted cash flow:**

- The payback period is the number of years necessary to recover funds invested in a project. When calculating the payback period, we don't take time value of money into account. Discounted cash flow takes into account time value of money.
- For a conventional project, payback period is always lower than discounted payback period. It's because the calculation of the discounted payback period takes

into account the present value of future cash inflows. So, based on this criterion, it's going to take longer before the original investment is recovered.

**(2 points for 2 marks)**

**Comparing payback and discounted cash flow**

- Both payback period and discounted payback period ignore cash flows occurring after recovering the original investment.
- The payback period and the discounted payback period are measures that allow us to assess in how many years the original investment will pay back.
- We prefer investment A to investment B if (discounted) payback period for investment A is lower than (discounted) payback period for investment B.

**(2 points for 2 marks)**

b) **Employee participation in budgeting:**
It refers to the process by which employees take control of their jobs and the conditions by adopting their participation in the budgeting processes within their work. Through this process, employees can share with decision-making authority concerning their roles and tasks with their supervisors.

**Advantages**

- **Developing a stronger relationship:** When setting a budget, the involvement of the employees in such processes makes them feel valued hence contributing more to such activities.
- **Improving communication:** Employee participation can also help improve communication where communication barriers are reduced. Thus, an employee with solid communication skills will effectively help simplify the setting of the company budget.
- **Boosts Productivity**: Employees who participate in the company activities help increase the company's productivity. Thus, taking part in the decision-making processes within the budgeting committee boosts their decision-making capability and in the long-run productivity of the organization.
- **Increased quality of products**: in organizational operations, employee participation can help improve the quality of products produced by the company. Employees informed of the company's direction may help the management make better budgeting decisions that benefit the company.

**(Any 3 points for 3 marks)**

**Disadvantages**

- **Time consuming**
  Involving all employees in each department will mean that the negotiations may take too long before the staff reaches an agreement. If there is no agreement, the management will need to make the final decision, which means that the staff will need to accept an imposed decision.

- **Budgetary slack**
  The other limitation is budgetary slack. The employees may overestimate the costs and/or underestimate the revenue projections as a way of manipulating the

budget to their advantage. It means that the subordinate managers will set targets that they are sure to achieve and even exceed in the next financial year.

**(2 points for 2 marks)**

**(Total: 20 marks)**

**EXAMINER'S COMMENTS**

The information provided for question a i) was handy because the cash flows were given. The process of calculating the IRR was understood. Most candidates calculated the NPVs correctly and used the interpolation method to arrive at the IRR.
For question a i), some candidates explained advantages and disadvantages of the two techniques. Most could not outline the similarities and differences. A few however did well to respond to the requirement.

Sub-section b) was well answered. Those who attempted it stated clearly the advantages and disadvantages of employee participation in budgeting and scored the full marks.

**QUESTION FIVE**

a) Minimum price of order

| NOTE | Relevant cost | GH¢ |
|---|---|---|
| 1 | Paper | 2,500 |
| 2 | Ink | 3,000 |
| 3 | Skilled Labour | 1,125 |
| 4 | Unskilled Labour | - |
| 5 | Variable Overheads | 1,400 |
| 6 | Printing Press | 600 |
| 7 | Production Fixed Costs | - |
| 8 | Estimating Costs | - |
| **Minimum Price** | | **8,625** |

**Note:**

1. Book value is irrelevant because it is a sunk cost; as there is no other use, replacement would not occur so the opportunity cost or scrap sale proceeds is relevant value.

2. Since this involves a future cost if the work is undertaken, the purchase price should be used. Since the remaining stock has no foreseeable use it has no value so the entire purchase costs is used.

3. Since skilled labour would work over the weekends, the full cost is relevant;
   125 hours @ GH¢4/hr = GH¢500
   125 hours @ GH¢5/hr = GH¢625

4. The weekend work results in 50 hours' time off in lieu- this, with the 75 other hours worked , totals 125 hours, which is less than the 200 hours of idle time which are already being paid for; thus there is no incremental cost.

5. This is a future cost which will be incurred if the work is undertaken.

6. The depreciation is a past cost and should be ignored, however the use of the press has an opportunity cost. If this work is undertaken, the press is not available for hire. The opportunity cost is the contribution which would be earned from hiring:
   200 hours @ (GH¢6- GH¢3)

7. As these costs are unaffected by the decision they should be ignored

8. These costs are pasts or sunk costs and should be ignored.

**(Marks are evenly spread = 17 marks)**

b) Generally, the classification of costs as fixed or variable identifies those costs which changes in total when activity changes (variable costs) and those whose total remains constant (fixed costs).

Relevant costs are those which are affected by a decision, and since most decisions affect activity levels, variable costs (which change when activity changes) can be seen to be relevant costs.

However, it does not automatically follow that fixed costs are not relevant. Some fixed costs may be specific to product or department and therefore may be avoidable. For example, a decision to discontinue a product will cause the product specific cost to be saved.

***The general notion that fixed costs are not relevant is therefore incorrect thus each decision must be considered individually. There would be circumstances when fixed cost must be considered relevant, due to their avoidability.***

**(3 marks)**

**(Total: 20 marks)**

**EXAMINER'S COMMENTS**

The relevant cost principle was fairly understood by candidates who attempted the question 5 a). The calculation of the relevant cost of skilled labour posed a little challenge. Some applied the premium to all the hours worked while some left out the premium. In all cases it came out that they understood that since labour was fully engaged, its incremental cost is relevant. They did well by recognising the opportunity cost of using the facility. Candidates used different approaches that is, the total and incremental which are all acceptable. In some cases, it was not clear which of the approaches was used. Under the incremental the irrelevant costs were left out. This approach should however include them in the explanation to merit the full score.

The performance in the b) part of the question was above average. Candidates rightly explained that fixed cost can be relevant depending on its nature and the type of decision to be taken.

**CONCLUSION:**

The overall performance was an improvement over the previous sitting but there is more room for improvement. Out of 1,165 candidates who wrote the paper 373 passed representing 32%. If the candidates had prepared well the performance could have been better.

Candidates writing this paper should note that questions are set to cover all the areas specified in the syllabus and so should be guided accordingly. Facilitators who prepare candidates should encourage them to attain some level of understanding of the principles before registering to write the paper.