**SOLUTION 1**

(a)

| | Make Component A GHC | Buy Component A GHC |
|---|---|---|
| Cost of material | 210,000 | - |
| Cost of labour | 180,000 | - |
| Variable production overheads | 30,000 | - |
| Fixed manufacturing overheads (reduction) | - | (18,750) |
| Redundancy cost | - | 5,000 |
| Purchases | - | 585,000 |
| | 420,000 | 571,250 |

Dolow should make component A at a relevant cost of GHC420,000 compared with cost of purchases of GHC571,250.

**Note**: Both fixed manufacturing and shared common cost are left since it is common to both except the reduction in manufacturing fixed cost of GHC18,750.

(b) Contributions

| | Make A GHC | Buy A GHC | Make Z GHC |
|---|---|---|---|
| Selling price per unit | 47 | 47 | 43 |
| Variable cost per unit | 28 | 39 | 29 |
| Contribution per unit | 19 | 8 | 14 |

On the basis of the contribution, Dolow should buy A and use the available spare capacity to produce Z giving a total contribution of 8 + 14 = 22 compared with contribution of producing A at GHC19.

**SOLUTION 2**

(a) CASH BUDGET

| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---|---|---|---|---|
| Inflows | | | | |
| Receipts from sales | 18,000 | 66,000 | 110,000 | 150,000 |
| Outflows | | | | |
| Payment to suppliers | 54,400 | 52,800 | 88,000 | 120,000 |
| Rent | 1,350 | - | 1,350 | - |
| Salaries | 900 | 900 | 900 | 900 |
| Telephone | 250 | 250 | 250 | 250 |
| Delivery van | 12,000 | - | - | - |
| Other expenses | 250 | 250 | 250 | 250 |
| | 69,150 | 54,200 | 90,750 | 121,400 |

| | | | | |
|---|---|---|---|---|
| Net cash flow | (51,150) | 11,800 | 19,250 | 28,600 |
| Opening cash balance | (4,200) | (46,950) | (35,150) | (15,900) |
| Closing cash balance | (46,950) | (35,150) | (15,900) | 12,700 |

(b) INCOME STATEMENT

| | GHC | GHC |
|---|---|---|
| Sales | | 444,000 |
| Opening inventory | 40,000 | |
| Purchases (80% x 444,000) | 355,200 | |
| | 395,200 | |
| Closing inventory | (40,000) | |
| Cost of sales | | (355,200) |
| Gross profit (20% x 444,000) | | 88,800 |
| Operating Expenses | | |
| Rent | 2,700 | |
| Salaries | 3,600 | |
| Telephone | 1,000 | |
| Other expenses | 1,000 | |
| Depreciation | 1,600 | |
| | | (9,900) |
| Net profit | | 78,900 |

(c) CASH & PROFIT RECONCILIATION

| | GHC |
|---|---|
| Opening cash balance | 4,200 |
| Closing cash balance | 12,700 |
| Net improvement | 16,900 |
| Add: Inventories | 40,000 |
| Receivables | 100,000 |
| | 156,900 |
| Less: Payables | (80,000) |
| Depreciation | (1,600) |
| | 75,300 |

Workings

1) Collections from Debtors

| Month | Sales | Monthly Receipts | Quarterly Receipts |
|---|---|---|---|
| January | 18,000 | | |
| February | 18,000 | | 18,000 |
| March | 18,000 | 18,000 | |
| April | 30,000 | 18,000 | |
| May | 30,000 | 18,000 | 66,000 |
| June | 30,000 | 30,000 | |
| July | 50,000 | 30,000 | |
| August | 50,000 | 30,000 | 110,000 |
| September | 50,000 | 50,000 | |
| October | 50,000 | 50,000 | |
| November | 50,000 | 50,000 | 150,000 |
| December | 50,000 | 50,000 | |
| January | - | 50,000 | Trade |
| February | - | 50,000 | Receivable |

2) Sales = 54,000 x 90,000 + 150,000 + 150,000 = 444,000

3) Payments to Suppliers

| Month | Purchases | Monthly Payments | Quarterly Payments |
|---|---|---|---|
| December | 40,000 | | |
| January | 14,400 | | |
| February | 14,400 | 40,000 | 54,400 |
| March | 14,400 | 14,400 | |
| April | 24,000 | 14,400 | |
| May | 24,000 | 14,400 | 52,800 |
| June | 24,000 | 24,000 | |
| July | 40,000 | 24,000 | |
| August | 40,000 | 24,000 | 88,000 |
| September | 40,000 | 40,000 | |
| October | 40,000 | 40,000 | |
| November | 40,000 | 40,000 | 120,000 |
| December | 40,000 | 40,000 | |
| January | - | 40,000 | Trade |
| February | - | 40,000 | Payable |

4) Purchases: 80% x 444,000 = 355,200

**SOLUTION 3**

(a) Analysis of Change in Profit

| | Jan - June | July – Dec. | Change |
|---|---|---|---|
| Increase in sales | 3,000,000 | 3,750,000 | 750,000 |
| Decrease in direct materials | 390,000 | 225,000 | 165,000 |
| Decrease in direct labour | 390,000 | 225,000 | 165,000 |
| Decrease in direct expenses | 260,000 | 150,000 | 110,000 |
| Decrease in factory cost | | | (440,000) |
| Increase in stocks (opening) | | | 600,000 |
| Decrease in closing stock | | | 1,000,000 |
| | | | 1,160,000 |
| Profit (second half of the year) | | | 750,000 |
| Difference | | | 410,000 |

The difference is as a result of stocks.

(b) Profit and Loss Account
Marginal Costing

| | Jan. - June | July – Dec. |
|---|---|---|
| Sales | 3,000,000 | 3,750,000 |
| Less: Direct material | 390,000 | 225,000 |
| Direct labour | 390,000 | 225,000 |
| Variable man./overhead | 260,000 | 150,000 |
| | 1,040,000 | 600,000 |
| Opening stock | 240,000 | 480,000 |
| | 1,280,000 | 1,080,000 |
| Closing stock | 480,000 | 80,000 |
| Variable cost of sales | 800,000 | 1,000,000 |
| Contribution | 2,200,000 | 2,750,000 |
| Fixed cost | 1,620,000 | 1,620,000 |
| | 580,000 | 1,130,000 |

Profit increased under marginal costing because fixed cost was fully charged as period cost and not including the inventory.

(c) Argument for Marginal Costing

1. Marginal costing provides more information for decision making.
2. Variable costing removes from profit the effect of inventory changes.
3. Variable costing avoids fixed overheads being capitalized in unsalable stocks.

Argument for Absorption Costing

1. Absorption costing does not understate the importance of fixed cost.
2. Consistent with external reporting

3. Absorption costing avoids fictitious losses being reported in the sense that fixed overheads are referred by including it in unsold stock and matched against subsequent revenue when goods are sold.

**SOLUTION 4**

(a) Key Factor

This is a factor which is a binding constraint upon the organization preventing indefinite expansion or unlimited profits.

Examples are: Lack of market (Sales), unavailability of finance, lack of skilled labour, suppliers of materials or lack of space.

(b) (i) If labour hours is limited to 45,000 hours

| | A | B | C | D |
|---|---|---|---|---|
| Sales | 50 | 70 | 80 | 100 |
| Less: | | | | |
| Variable Cost | (18) | (40) | (34) | (34) |
| Contribution/Unit | 32 | 30 | 46 | 66 |
| Labour hours | 3 | 2 | 7 | 5 |
| Contribution per labour | 10.67 | 15 | 6.57 | 13.2 |
| Ranking | 3rd | 1st | 4th | 2nd |

The appropriate mix:

| | | | |
|---|---|---|---|
| 3,000 units of B @ 2 | hours | = | 6,000 labour hours |
| 3,000 units of D @ 5 | hours | = | 15,000 labour hours |
| 3,000 units of A @ 3 | hours | = | 9,000 labour hours |
| 2,142 units of C @ 7 | hours | = | 15,000 labour hours |
| | | | 45,000 labour hours |

(ii) If material is limited to 90,000 kgs

| | A | B | C | D |
|---|---|---|---|---|
| | GHC | GHC | GHC | GHC |
| Sales | 50 | 70 | 80 | 100 |
| Less: | | | | |
| Variable Cost | (18) | (40) | (34) | (34) |
| Contribution/Unit | 32 | 30 | 46 | 66 |
| Material kg | 3 | 9 | 5 | 6 |
| Contribution kg of material | 10.67 | 3.33 | 9.2 | 11 |
| Ranking | 2nd | 4th | 3rd | 1st |

The appropriate mix:

| | | |
|---|---|---|
| 3,000 units of D @ 6 kg | = | 18,000 kg |
| 3,000 units of A @ 3 kg | = | 9,000 kg |
| 3,000 units of C @ 5 kg | = | 15,000 kg |
| 1,444 units of B @ 9 kg | = | 13,000 kg |
| | | 55,000 kg |

(c) The factors include the following:

- Remuneration should reflect workers effort and performance and payment should be made without delay, preferably very soon after completion of the task.
- The scheme should be reasonably simple to assist administration and to enable employees to calculate their own bonus.
- Performance levels should be fair, ie they should be in the reach of the average worker working reasonably hard.
- There should be no artificial limit on earnings and earnings should be safeguarded when problems arise outside the employee's control.
- The scheme should not be introduced until there has been full consultation ad agreement with employees and unions.

**SOLUTION 5**

(a) Process Costing and Job Costing – A Comparison

| Process Costing | Job Costing |
|---|---|
| 1. Costs are compiled process-wise and cost per unit is the average cost, ie the total cost of the process divided by the number of units. | Costs are separately ascertained for each job, which is cost unit. |
| 2. Production is of standardised products and cost units are identical. | Production is of non-standard items with specifications and instructions from the customers. |
| 3. Production is for stocks. | Production is against orders from customers. |
| 4. Costs are computed at the end of a specific period. | Costs are calculated when a job is completed. |
| 5. The cost of one process is transferred to the next process in the sequence. | Cost of a job is not transferred to another job but to finished stock account. |
| 6. On account of continuous nature of production, work-in-progress in the beginning and end of the accounting period is a regular feature. | There may or may not be work-in-progress in the beginning and end of the accounting period. |
| 7. Cost control is comparatively easier. This is because factory processes and products are standardised. | Cost control is comparatively more difficult because each cost unit or job needs individual attention. |

(b) (i) Calculate EOQ

$$x = \sqrt{\frac{2 \times D \times Co}{C_H}}$$

$$\sqrt{\frac{2 \times 50{,}000 \times 160}{12}}$$

$$\sqrt{\frac{16{,}000{,}000}{12}}$$

$$= \underline{1154.7} \text{ units}$$

OR

$$\sqrt{\frac{2 \times 500{,}000 \times 160}{12}}$$

$$\sqrt{160{,}000{,}000}$$

$$= \underline{12{,}649} \text{ units}$$

(c) i. Transfer price is the value placed on items produced in a segment for further processing in another segment or services rendered by one unit to another unit in the same organisation.

ii. Market Based:

- Market Price: where the product or service is produced in a competitive environment ie the intermediate product/service can be sold outside and the receiving division can also obtain the product from outside. The market price can be used t set the price of the intermediate product.

Cost Based:

- Marginal Cost: where the product can not be sold outside the company can gain when the supplying division can produce and transfer at marginal cost.

Negotiated Price:

- The receiving and supplying division can agree on prices that will satisfy the two units.

Adjusted Market Price:

- The supplying division can supply at marginal cost where there is competition but there is idle capacity.

(c) Standard Costing

It is a system of comparing actual results with expected results, the latter being based ion predetermined standard costs per unit. Variances are calculated and analysed by reasons.

Budgeting Control

Establishment of departmental budgets relating to the responsibilities of executives to the requirements of policy and the continuous comparison of actual with budgeted results.