

Chartered Accountants Professional Consultants

Subject Name

Cost Accounting Mock Exam Paper

## Cost Accounting

M OCK Marks:100
Time: 3.15 hour

## Question :1

A company is reviewing its stock policy, and has the following alternatives available for the evaluation of stock number 12 789:
(i) Purchase stock twice monthly, 100 units
(ii) Purchase monthly, 200 units
(iii) Purchase every three months, 600 units
(iv) Purchase six monthly, 1200 units
(v) Purchase annually, 2400 units

It is ascertained that the purchase price per unit is Rs. 0.80 for deliveries up to 500 units. A $5 \%$ discount is offered by the supplier on the whole order where deliveries are 501 up to 1000 , and $10 \%$ reduction on the total order for deliveries in excess of 1000. Each purchase order incurs administration costs of Rs.5. Storage, interest on capital and other costs are Rs. 0.25 per unit of average stock quantity held. You are required to advise management on the optimum order size.
(Marks 7)

## Question:2

The following data relate to a process of a single product in a manufacturing company for the month of April 2011:

|  |  | \% | Units | Rs. |
| :---: | :---: | :---: | :---: | :---: |
| (i) | Opening work-in-process |  | 10,000 |  |
|  | Degree of completion: |  |  |  |
|  | Raw materials | 100 |  | 60,000 |
|  | Labour | 60 |  | 36,000 |
|  | Overheads | 60 |  | 18,000 |
| (ii) | Receipts from previous process |  | 100,000 | 427,500 |
| (iii) | Expenses incurred during the month: |  |  |  |
|  | Raw materials |  |  | 197,500 |
|  | Labour |  |  | 345,575 |
|  | Overheads |  |  | 172,800 |
| (iv) | Closing work-in-process |  | 7,500 |  |
|  | Degree of completion: |  |  |  |
|  | Raw materials | 100 |  |  |
|  | Labour \& overheads | 50 |  |  |

(v) Abnormal Loss
5,000
Degree of completion:
Raw materials 100
Labour \& overheads 80
(vi) Normal loss is 5\% of current input and sold @1.5 each

Units completed are transferred to warehouse. The company uses the FIFO method of valuation.

Required: Prepare:
(a) Statement of equivalent units;
(03 marks)
(b) Statement of cost per equivalent unit and total cost; (04 marks)
(c) Process account.

## Question:3

HICO Co is a manufacturing company that uses standard absorption costing and variance analysis to control its costs and revenues. The standard cost card for its single product is given below.

|  | Rs |
| :--- | ---: |
| Direct materials: 4 kg at Rs2.50 per kg | 10 |
| Direct labour: 2 hours at Rs12 per hour | 24 |
| Fixed overhead: 2 hours at Rs6 per direct labour <br> hour | 12 |
| Standard cost per unit | $\mathbf{4 6}$ |

In the most recent period, 12,000 units were produced. Budgeted production for the period was 10,000 units. Actual direct materials used cost Rs 140,400 and actual direct labour cost was Rs 345,000 for the 27,600 actual hours worked. Actual fixed overhead incurred was Rs 115,000.

HICO Co's management accountant wishes to reconcile budgeted and actual cost for the period. He has correctly calculated that the direct material price and usage variances were Rs 5,400 adverse and Rs 15,000 adverse respectively, but he has asked you to complete the reconciliation.

## Required:

Calculate the following variances for the most recent period:
(i) Direct labour rate variance;
(ii) Direct labour efficiency variance;
(iii) Fixed overhead expenditure variance;
(iv) Fixed overhead capacity variance;
(v) Fixed overhead efficiency variance.
(15Marks)

## Question: 4

A company manufactures a single product with a capacity of 150,000 units per annum. The summarized profitability statement for a year is as under:

GCA Consultants

| Particulars | Amount | Amount |
| :--- | :---: | :---: |
|  | Rs. | Rs. |
| Sales: 100000 units @ Rs.15 per unit |  | $1,500,000$ |
| Less: Expenses |  |  |
| Direct materials | 300,000 |  |
| Direct labor | 200,000 |  |
| Production overheads - variable | 60,000 |  |
| Production overheads - fixed | $3,00,000$ |  |
| Administrative overheads - fixed | 150,000 |  |
| Selling and distribution overheads - variable | 90,000 |  |
| Selling and distribution overheads - fixed | 150,000 |  |
| Total cost of sales |  | $\mathbf{( 1 , 2 5 0 , 0 0 0 )}$ |
| Profit |  | $\mathbf{2 5 0 , 0 0 0}$ |

You are required to evaluate the following options:

1) What will be the amount of sales required to earn a target profit of $25 \%$ on sales, if the packing is improved at a cost of Re. 1 per unit?
2) There is an offer from a large retailer for purchasing 30,000 units per annum subject to providing a packing with a different brand name at a cost of Rs. 2 per unit. However, in this case there will be no selling and distribution expenses. Also this will not in any way affect the company's existing business. What will be the breakeven price for this additional offer?
3) If an expenditure of Rs.300, 000 is made on advertising, the sales would increase from the present level of 100000 units to 120000 units at a price of Rs. 18 per unit. Will that expenditure be justified?
4) If the selling price is reduced by Rs. 2 per unit, there will be 100\% capacity utilization. Will the reduction in selling price be justified?
(Marks 15)

## Question:5 (a)

Pak Ltd. manufactures and sells children's toys of high quality over an extensive market utilizing the services of skilled artists who are paid at an average rate of Rs. 15 per hour. The total number of skilled hours available in a year is only 14000 . The details of planned production for 2008-09; estimated cost and unit selling prices are given below:

| Product <br> [Toy] | Production <br> Planned <br> [Units] | Direct <br> Materials Per <br> Unit <br> Rs. | Direct <br> Labour <br> Per Unit <br> Rs. | Fixed <br> Overheads <br> Per Unit <br> Rs. | Selling <br> Price <br> Per Unit <br> Rs |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A | 3000 | 20 | 10 | 15 | 70 |
| B | 4000 | 24 | 12 | 18 | 92 |
| C | 4000 | 32 | 12 | 18 | 95 |
| D | 3000 | 40 | 16 | 24 | 110 |
| E | 2000 | 60 | 20 | 30 | 180 |

## GCA Consultants

Variable overheads costs amount to $50 \%$ of the direct labor cost. The company has estimated the following maximum and minimum demands for each product.

| Particulars | A | B | C | D | E |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Maximum - Units | 5000 | 6000 | 6000 | 4000 | 4000 |
| Minimum - Units | 1000 | 1000 | 1000 | 500 | 500 |

In order to have market share in future, company cannot reduce the sale of any product below the minimum demand in market.
Required work out profit as per the production plan of the company and also compute the optimum profit in the given situation.
(15 marks)

Question:5 (b) Hammad company has decided to distribute the cost of service departments by the algebraic method. The production departments are PDN-1 and PDN-2 and the monthly data as under:

| Departments | Actual Factory Overheads <br> cost before distribution | Service Provided <br> SR 1 | Service Provided <br> SR 2 |
| :--- | :--- | :--- | :--- |
|  | Rs. In million |  |  |
| PDN 1 | 84.0 | $40 \%$ | $50 \%$ |
| PDN 2 | 58.0 | $50 \%$ | $30 \%$ |
| SR 1 | 20 |  | $20 \%$ |
| SR 2 | 17.6 | $10 \%$ |  |

Required:
Work out total factory overheads of producing department PND-1 and PND-2 after distribution of service department's costs.

Question:6 Bits and Pieces (B\&P) operates a retail store selling spares and accessories for the car market. The store has previously only opened for the six days a week for the 50 working weeks in the year, considering also opening on Sunday.
The sales of the business on Monday through to Saturday averages at Rs. 10,000 per day with average gross profit of $70 \%$ earned.
B\&P expected the gross profit \% earned on Sunday will be 20\% lower than the average earned on the other days in the week. This is because they plan to offer substantial discounts and promotions on Sunday to attract customers. Given the price reduction, Sunday sale revenue are expected to be 60\% more than the average daily sale revenue for the other days. These Sunday sales estimates are for the new customers only, with no allowance being made for those customers that may transfer from other days. B\&P buys all its goods from one supplier. This supplier gives a $5 \%$ discount on all purchases if annual spending exceeds Rs.1, 0000,000.
It has been agreed to pay time and a half to sales assistant that work on Sunday. The normal hourly rate is $20 / \mathrm{hr}$. In total, five sales assistants will be needed for the six hours that the store will be opened on the Sunday. They will also be able to take a half day off (four hours) during the week. Staffing levels will be allowed to reduce slightly during the week to avoid extra cost being incurred.
The staff will be supervised by a manager, currently employed by the company and paid an annual salary of Rs. 80,000 . If he works on Sunday he will take the equivalent time off during the week when the

## GCA Consultants

assistant manager is available to cover for him at no extra cost to $B \& P$. He will be also be paid a bonus of $1 \%$ of the extra sales generated on the Sunday project.
The store will have to be lit at cost of Rs. 30 per hour and heated at a cost of Rs. $45 / \mathrm{hr}$. The heating will be come on two hour before the store open in 25 "winter" weeks to make sure it is warm enough for customers to come in at opening time. The store is not heated in other weeks.
The rent of the store amount to Rs. 420,000 annum.

## Required:

(15 marks)
Calculate weather the Sunday opening incremental revenue exceeds the incremental cost over a year and on this basis reach a conclusion as to whether Sunday opening is financially justifiable.

Question:7 AZKA Manufacturing company is involved in manufacturing and sales of single product called AZKA. Sales and operating profits of the company for the first two quarter of the year were as follows:

|  | First Quarter (Rs.) | Second Quarter (Rs.) | Increase \% |
| :--- | :--- | :--- | :--- |
| Sales | $750,000,000$ | $1,125,000,000$ | $50 \%$ |
| Operating Profit | $198,750,000$ | $208,650,000$ | $4.9 \%$ |

Directors of the company are concerned about the lower profitability in second quarter, as despite $50 \%$ increase in sales, operating profit increased by a nominal percentage only. The other data relating to company's operations is as under:

|  |  | First <br> Quarter | Second Quarter |
| :---: | :---: | :---: | :---: |
| Sales in units | -actual -budgeted | 1,000,000 | 1,500,000 |
|  |  | 1,500,000 | 1,500,000 |
| Production in units | -actual -budgeted | 1,500,000 | 1,200,000 |
|  |  | 1,500,000 | 1,500,000 |
| Ending inventory in units |  | 500,000 | 200,000 |
| Sales price per unit | Rs. | 750 | 750 |
| Variable manufacturing costs per unit | Rs. | 250 | 250 |
| Fixed manufacturing costs | Rs. | 450,000,000 | 450,000,000 |
| Marketing and administrative expenses | Rs. | 1,250,000 | 1,350,000 |

## Required:

a) Prepare income statement for second quarter under:
i) Absorption costing
ii) Direct costing
b) Prepare a comparative income statement by using absorption costing method for both quarters and identify the difference to reconcile the profits
(13 marks)

## Cost Accounting

## (Suggested Answer)

## Module : D

## Answer 1:

The purchase cost is not constant per unit. It is therefore not possible to use the EOQ formula. Instead the following schedule of costs should be prepared:

## Evaluation of optimum order size

| Size of order | No. of <br> Annual <br> orders | Purchase <br> cost (WI) | Storage cost | Admin. <br> cost | Total <br> cost |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2400 | 1 | $1728(0.72)$ | 300 <br> $(24000 / 2 \times .25)$ | 5 | 2033 |
| 1200 | 2 | $1728(0.72)$ | 150 | 10 | 1888 |
| 600 | 4 | $1824(0.76)$ | 75 | 20 | 1919 |
| 200 | 12 | $1920(0.80)$ | 25 | 60 | 2005 |
| 100 | 24 | $1920(0.80)$ | 12.50 | 120 | 2052.50 |

It is recommended that two orders be placed per year for 1200 units.

|  | (Rs) |
| :--- | :---: |
| Calculation of cost $2(1200 \times 0.80-10 \%)=$ | 1728 |
| Add: Storage, average quantity held $600 \times 0.25=$ | 150 |
| Add two orders placed per annum $\times 5=$ | 10 |
|  | Rs1888 |

## Answer 2:

(a) Statement of equivalent units

| Units <br> input | Particulars | Units <br> output | Material |  | Labour | Overhead |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 10,000 | Opening WIP <br> units, completed <br> and transferred to <br> warehouse | 10,000 | - | Units | $\%$ | Units | $\%$ | Units |

GCA Consultants

|  | Normal loss (5\%) | 5,000 | - | - | - | - | - |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Abnormal loss | 5,000 | 100 | 5,000 | 80 | 4,000 | 80 |
|  | 110,000 |  | 95,000 |  | 94,250 |  | 94,250 |
| 110,000 | Total |  |  |  |  |  |  |

(b) Statement of cost per equivalent unit and total cost

| Particulars | Previous <br> Process | Material | Labour <br> Overhead | Total |
| :--- | :---: | :---: | :--- | :--- |
| Cost | 427,500 | 197,500 | 518,375 <br> $(345,575+172800)$ |  |
| Less: Recovery from sale <br> of 5,000 units @ 1.5/ unit | 427,500 | 190,000 | 518,375 |  |
|  | 95000 <br> $(100,000-5000)$ | 95000 | 94,250 |  |
| Cost per equivalent unit: | 4.5 |  |  |  |
| Material |  | 2 |  |  |
| Conversion |  |  | 5.5 |  |
| Total |  |  |  | 12 |

Total cost of 92,500 completed units transferred to warehouse
Cost of 10,000 completed opening units $114,000+(4,000 \times 5.5)$
Cost of 82,500 completed units @ 12
Total cost of 92,500 completed units
Cost of 7,500 closing WIP units ( $7,500 \times$ Rs. 6.5 ) $+(3,750 \times 5.50)$
Cost of 5,000 abnormal loss units (5,000xRs. 6.5) + (4,000x5.50)

Rs.
136,000
990,000
1,126,000
69,375
54,500
1,249,875
(c) Process Account

| Particulars | Units | Rs. | Particulars | Units | Rs. |
| :--- | ---: | ---: | :--- | ---: | ---: |
| Opening WIP | 10,000 | 114,000 | Normal loss | 5,000 | 7,500 |
|  |  | $(60+36+18)$ |  |  | $(5000 \times 1.5)$ |
| Units received | 100,000 | 427,500 | Completed units(bal) | 92,500 | $1,126,000$ |
| Expenses |  |  |  |  |  |
| incurred |  | 197,500 | Closing WIP |  | 7,500 |
| Material |  | 345,575 | Abnormal loss | 5,000 | 54,375 |
| Labour |  | 172,800 |  |  |  |
| Overhead | 110,000 | $1,257,375$ |  | 110,000 | $1,257,375$ |

Answer:3
(a) Standard cost variances

| Direct labour |  |
| :--- | :--- |
| Actual hours at actual rate | Rs 345,000 |
| Actual hours at standard rate (27,600 hours x Rs 12 per hour) | Rs 331,200 |
| Rate variance > | Rs 13,800 adverse |
|  |  |

GCA Consultants

| Actual hours at standard rate (27,600 hours $\times$ Rs 12 per hour) | Rs 331,200 |
| :--- | :--- |
| Standard hours at standard rate (12,000 units $\times 2$ hours $\times$ Rs12 $)$ | Rs 288,000 |
| Efficiency variance > | Rs 43,200 adverse |
|  |  |
| Fixed Overhead |  |
| Actual fixed overhead | Rs 115,000 |
| Budgeted fixed overhead (10,000 units $\times$ Rs 12 per unit) | Rs 120,000 |
| Expenditure variance > | Rs 5,000 favourable |
|  |  |
| Budgeted fixed overhead (10,000 units $\times$ Rs 12 per unit) | Rs 120,000 |
| Actual hours at standard rate (27,600 hours $\times$ Rs 6 per hour) | Rs 165,600 |
| Capacity variance > | Rs 45,600 favourable |
|  |  |
| Actual hours at standard rate (27,600 hours $\times$ Rs 6 per hour) | Rs 165,600 |
| Standard hours at standard rate (12,000 units $\times 2$ hours $\times$ Rs 6) | Rs 144,000 |
| Efficiency variance > | Rs 21,600 adverse |
|  |  |

## Answer 4

Working Note No. 1
Statement Showing Total Contribution and Contribution Per Unit

| Particulars | Amount | Amount |
| :--- | :---: | :---: |
|  | Rs. | Rs. |
| Sales: 100000 units @ Rs.15 per unit |  | $1,500,000$ |
| Less: Variable Costs: |  |  |
| Direct materials | 300,000 |  |
| Direct labor | 200,000 |  |
| Production overheads - variable | 60,000 |  |
| Selling and distribution overheads - variable | 90,000 |  |
| Total Variable Cost |  | $(650,000)$ |
| Contribution [Sales - Total Variable Cost] |  | $\mathbf{8 5 0 , 0 0 0}$ |

Variable Cost Per Unit $=650,000 / 1,00,000=$ Rs. 6.50
Contribution Per Unit $=850,000 / 1,00,000=$ Rs. 8.50
Working Note No. 2
Total Fixed Cost:

| Production overheads : | Rs.300,000 |
| :--- | :--- |
| Administration overheads : | Rs.150,000 |
| S \& D Overheads : | Rs.150, 000 |
| Total fixed costs : | Rs.600,000 |

## 1) Amount of sales required to earn a target profit of $25 \%$ on sales after improving the packing:

| Present variable cost per unit $[$ Working Note No.1] $=$ | Rs. 6.50 |
| :--- | :--- |
| Additional cost of improvement in packing $=$ | Re.1.00 |
| Revised variable cost per unit $=$ | Rs.7.50 |
| Revised contribution per unit (15-7.5) | $\underline{R s .7 .50}$ |

## GCA Consultants

Profit/volume ratio $=$ Rs. $7.50 /$ Rs $.15 * 100=50 \%$
Let $X$ is the amount of sales to earn desired profit, the amount of sales will be computed with the help of the following formula
$\mathrm{S}=$ Fixed Cost + Desired Profit /Profit/Volume Ratio
Therefore S= Rs.600, $000+.25$ S/50\% = Rs.2,400,000
Note: Total fixed cost is given in Working Note No. 2 above
Amount of sales required to earn the profit is Rs. 1,240, 000 and the amount of profit is Rs. 375,000 [25\% of sales]
2) Evaluation of purchase offer by a large retailer: $\mathbf{3 0 0 0 0} \mathbf{0 0}$ units, additional packing cost of Rs. 2 per unit

| Present variable cost per unit : | Rs. 6.50 |
| :--- | :--- |
| Less: S \& D Overheads : | Rs. 0.90 |
| Add: Packing expenses : | Rs.2.00 |
| Revised variable cost per unit : | Rs.7.60 |

The current selling price is Rs. 15 per unit and after considering the revised variable cost, the contribution per unit works out Rs. 15 - Rs. $7.60=$ Rs. 7.40 . Since the fixed costs are not going to increase, there will be additional contribution of 30000 units * Rs. $7.40=$ Rs. 222,000 which will the additional profit and hence the offer can be accepted. The breakeven price for this offer will be Rs.7.60 per unit, which is equal to the variable cost per unit.

## 3) Evaluation of proposal of incurring additional advertising expenses of Rs.3, 00,000

## Particulars Amount [Rs.]

| Revised Selling Price per unit | 18.00 |  |
| :---: | :---: | :---: |
| Less: variable cost [working note no.1] per unit | t $\quad \underline{6.50}$ |  |
| Contribution per unit | 11.50 |  |
| Total contribution : 120, 000 * Rs.11.50 = |  | 1,380, 000 |
| Less: Fixed cost: Current | Rs.600, 000 |  |
| Addl. Expenditure on Advertising | Rs.300, 000 | $(900,000)$ |
| Profit |  | 480,000 |

Since the amount of profit has increased from the present Rs.250, 000 to Rs. 480,000 the expenditure on advertising is justified.
4) Reduction in selling price for increasing capacity utilization to $\mathbf{1 0 0 \%}$

| Particulars Amount | Rs. |
| :--- | ---: |
| New selling price per unit (15-2) | 13.00 |
| Less: variable cost per unit | 6.50 |
| Contribution per unit | 6.50 |
| Total Contribution 150,000 units * Rs.6.50 = | 975,000 |
| Less: Fixed cost | $\mathbf{( 6 0 0 , 0 0 0 )}$ |
| Profit | $\mathbf{3 7 5 , 0 0 0}$ |

It can be seen that the existing profit can increase by reducing the selling price up to Rs. 13 per unit and thus increasing the capacity utilization to $100 \%$ and hence the proposal is justified.

## Answer 5:

## GCA Consultants

In the example, the direct labour hour is the key factor or constraint. The availability of the same is only 14000 labour hours and hence the priority of the products will have to be decided as all the product cannot be produced equal to the maximum quantity. The contribution per direct labour hour will be criteria for determining the priority. In the following table the contribution per unit and per direct labour hour is shown.

1] Statement showing Contribution per Direct Labour Hour and Priority of Production

| Particulars | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ | $\mathbf{D}$ | $\mathbf{E}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Sale Price (per unit) | 70 | 92 | 95 | 110 | 180 |
| Less- variable cost per unit |  |  |  |  |  |
| Direct material | 20 | 24 | 32 | 40 | 60 |
| Direct Labor | 10 | 12 | 12 | 16 | 20 |
| Variable Overhead | 5 | 6 | 6 | 8 | 10 |
| Contribution | 35 | 50 | 45 | 46 | 90 |
|  | $\div$ | $\div$ | $\div$ | $\div$ | $\div$ |
| Limiting factor (hours/unit) | 0.67 | 0.8 | 0.8 | 1.06 | 1.33 |
| Contribution Per Scarce factor <br> (Per Direct labor Hour) | $\mathbf{5 2 . 2 3}$ | $\mathbf{6 2 . 5}$ | $\mathbf{5 6 . 2 5}$ | $\mathbf{4 3 . 3 9}$ | $\mathbf{6 7 . 6 6}$ |
| Ranking | $\mathbf{4}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{5}$ | $\mathbf{1}$ |

* Direct labour hours for each product is computed by dividing the direct labor cost per unit of each product by direct labor rate per hour, which is Rs. 15 .

The next step in the problem is to work out the amount of profit as per the production plan prepared by the company. This computation is shown in the next statement.

## 2] Statement showing Amount of Profit as per Production Plan of the company

| Particulars | A | B | C | D | E |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No of Units to be sold | 3000 | 4000 | 4000 | 3000 | 2400 |  |
| Contribution | 35 | 50 | 45 | 46 | 90 |  |
| Total contribution | 105000 | 200000 | 180000 | 138000 | 216000 |  |
| Less- Total Fixed Cost (3000x15) | 45000 | 72000 | 72000 | 72000 | 72000 | 333,000 |
| Profit | $\mathbf{6 0 0 0 0}$ | $\mathbf{1 2 8 0 0 0}$ | $\mathbf{1 0 8 0 0 0}$ | $\mathbf{6 6 0 0 0}$ | $\mathbf{1 4 4 0 0 0}$ |  |

3] Statement showing Production Plan for Optimizing Profit

| Product in order <br> of priority | Units | No of hours <br> Required | Contribution <br> per Unit | Total <br> Contribution |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{E ( 5 0 0 + 3 5 0 0 )}$ | 4000 | 5334 | 90 | 360000 |
| $\mathbf{B ( 1 0 0 0 + 5 0 0 0 )}$ | 6000 | 4800 | 50 | 300000 |
| $\mathbf{C ( 1 0 0 0 + 2 3 3 1 )}$ | 3331 ( bal) | 2665 | 45 | 149895 |
| $\mathbf{A ( 1 0 0 0 )}$ | 1000 | 667 | 35 | 35000 |
| $\mathbf{D ( 5 0 0 )}$ | 500 | 534 | 46 | 23000 |
| 14000 |  |  |  |  |

Amount of maximum profit $=$ Total Contribution - Total Fixed Cost
= Rs. $8,67,895$ - Rs.3, 33,000 = Rs.5, 34, 895
** Number of units X labour hours per unit

## GCA Consultants

## Answer

```
SR-1 = Rs. 20m + 0.20SR-2
SR-1 = Rs.17.6m + 0.10 SR-1
SR-1 = Rs. 20m + 0.20(Rs.17.6m + 0.10 SR-1)
0.98 SR-1 = Rs. 23.52m
SR-1 = Rs.24million
SR-2 = Rs. 17.6 m+0.10(Rs. 24 m)
SR-2 = Rs. }20\mathrm{ million
```

Total PDN 1 overhead $=$ Rs. $84 m+0.4(S R-1)+0.5(S R-2)$
$=$ Rs. $84 \mathrm{~m}+$ Rs. $9.6 \mathrm{~m}+$ Rs. 10 m
$=103.6$ million

## Answer.

## BITS AND PIECES

(a) The decision to open on Sundays is to be based on incremental revenue and incremental costs:

|  | Ref | Rs. | Rs. |
| :--- | ---: | ---: | ---: |
| Incremental Sale | W1 |  | 800,000 |
| Incremental cost |  |  |  |
| Cost of Sales | W2 | 335,000 |  |
| Staff | W3 | 45,000 |  |
| Lighting | W4 | 9,000 |  |
| Heating | W5 | 9,000 |  |
| Manager's bonus | W6 | 8,000 |  |
| Total |  |  | $\underline{(406,000)}$ |
| Net incremental revenue |  | $\underline{394,000}$ |  |

## Conclusion

On the basis of the above it is clear that the incremental revenue exceeds the incremental costs and therefore it is financially justifiable.

W1 Incremental Revenue

| Day | Sales Rs. | Gross <br> Profit $\%$ | Gross <br> Profit Rs. | Cost of <br> Sales Rs. |
| :--- | ---: | ---: | ---: | ---: |
| Average | 10,000 | $70 \%$ |  |  |
| Sunday (+60\% of average) | 16,000 | $50 \%$ | 8,000 | 8,000 |
| Annually (50days) | 800,000 |  | 400,000 | 400,000 |
| Current results (300 days) | $3,000,000$ | $70 \%$ | $2,100,000$ | 900,000 |
| New Results | $3,800,000$ | $65.8 \%$ | $2,500,000$ |  |

## W2 purchasing and discount on purchasing:

Extra purchasing from Sunday trading is $800,000-400,000=400,000$
Current annual purchasing is $18,000 * 50=900,000$
New annual purchasing is $(900,000+400000)$ * $.95=1,235,000$
Incremental cost is $1,235,000-900,000=335,000$ (a 65,000 discount)

## W3 Staff cost:

## GCA Consultants

Staff costs on Sunday are 5 staff * 6 hours * 20 per hour * $1.5=900$ per day. Annual cost is 900 * $50=45,000$.

W4 Lighting costs: these are 6 hours *30/hour *50 $=9,000$
W5 Heating costs: heating cost in winter is $6+2$ hours *45 *25 = 9,000
W6 Manager's bonus: this is based on the incremental revenue 800,000 * $1 \%=8,000$ (or 160 per day)

Answer
(a) Income statement of second quarter 000

|  | Absorption costing | Marginal costing |
| :--- | :--- | :--- |
| Sales (given) | $\mathbf{1 , 1 2 5 , 0 0 0}$ | $\mathbf{1 , 1 2 5 , 0 0 0}$ |
| Cost of sales | 275000 <br> $\left(500,000^{*} 550\right)$ | 125000 <br> $\left(500,000^{*} 250\right)$ |
| Opening stock | 660,000 <br> $(1,200,000 * 550)$ | 300,000 <br> $(1,200,000 * 250)$ |
| Production cost | 110000 <br> $\left(200000^{*} 550\right)$ | 50000 <br> $(200000 * 250)$ |
| Closing stock | - | 450,000 |
|  | $\mathbf{8 2 5 , 0 0 0}$ | $\mathbf{8 2 5 , 0 0 0}$ |
| Fixed production cost | 90,000 |  |
|  | $\mathbf{9 1 5 , 0 0 0}$ | $\mathbf{8 2 5 , 0 0 0}$ |
| Under absorbed fixed overheads <br> (300000*300) | $\mathbf{2 1 0 , 0 0 0}$ | $\mathbf{3 0 0 , 0 0 0}$ |
|  | $\mathbf{1 3 5 0 )}$ | $(1350)$ |
| Gross Profit | $\mathbf{2 0 8 , 6 5 0}$ | $\mathbf{2 9 8 , 6 5 0}$ |
|  |  |  |
| Marketing and administrative expenses |  |  |
|  |  |  |
| Net profit |  |  |
|  |  |  |

## Workings

Fixed overheads absorption rate: 450,000,000/1,500,000=300/unit

## GCA Consultants

## (B) Comparative statement:

|  | First quarter | Second quarter | Increase /(Decrease) in profit |
| :---: | :---: | :---: | :---: |
| Sales (given) | 750000 | 1,125,000 | 375,000 |
| Cost of sales |  |  |  |
| Opening stock | - | $\begin{aligned} & 275,000 \\ & (500,000 * 550) \end{aligned}$ | $(275,000)$ |
| Production cost | $\begin{aligned} & 825000 \\ & (1,500,000 * 550) \end{aligned}$ | $\begin{aligned} & 660,000 \\ & (1,200,000 * 550) \end{aligned}$ | 165,000 |
| Closing stock | $\begin{aligned} & 275000 \\ & (500,000 * 550) \end{aligned}$ | $\begin{aligned} & 110,000 \\ & (200000 * 550) \end{aligned}$ | $(165,000)$ |
|  | 550,000 | 825,000 | $(275,000)$ |
| Under absorbed fixed overheads $(300000 * 300)$ | - | 90,000 | $(90,000)$ |
|  | 550,000 | 915,000 | $(365,000)$ |
| Gross Profit | 200,000 | 210,000 | 10,000 |
| Marketing and administrative expenses | $(1,250)$ | $(1,350)$ | (100) |
| Net profit | 198,750 | 208,650 | 9,900 |

Answer
(a) Income statement of second quarter

000

|  | Absorption costing | Marginal costing |
| :--- | :--- | :--- |
| Sales (given) | $\mathbf{1 , 1 2 5 , 0 0 0}$ | $\mathbf{1 , 1 2 5 , 0 0 0}$ |
| Cost of sales |  |  |
| Opening stock | 275000 | 125000 |
|  | $(500,000 * 550)$ | $(500,000 * 250)$ |
| Production cost | 660,000 |  |
| $(1,200,000 * 550)$ | 300,000 |  |
| $(1,200,000 * 250)$ |  |  |$|$|  | 110000 |  |
| :--- | :--- | :--- |
| $(200000 * 550)$ | $(200000 * 250)$ |  |
| Closing stock |  |  |
|  | - | $\mathbf{8 5 0 , 0 0 0}$ |
| Fixed production cost | $\mathbf{8 2 5 , 0 0 0}$ |  |
|  | 90,000 | $\mathbf{8 2 5 , 0 0 0}$ |
| Under absorbed fixed overheads <br> (300000*300) | $\mathbf{9 1 5 , 0 0 0}$ | $\mathbf{3 0 0 , 0 0 0}$ |
|  | $\mathbf{2 1 0 , 0 0 0}$ |  |
| Gross Profit |  | $(1350)$ |
|  | $(1350)$ |  |
| Marketing and administrative expenses |  |  |
|  |  |  |

GCA Consultants

| Net profit | 208,650 | 298,650 |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |

## Workings

Fixed overheads absorption rate: 450,000,000/1,500,000 =300/unit
(B) Comparative statement:

|  | First quarter | Second quarter | Increase /(Decrease) in profit |
| :---: | :---: | :---: | :---: |
| Sales (given) | 750000 | 1,125,000 | 375,000 |
| Cost of sales |  |  |  |
| Opening stock | - | $\begin{array}{\|l\|} \hline 275,000 \\ (500,000 * 550) \\ \hline \end{array}$ | $(275,000)$ |
| Production cost | $\begin{aligned} & 825000 \\ & (1,500,000 * 550) \end{aligned}$ | $\begin{aligned} & 660,000 \\ & (1,200,000 * 550) \\ & \hline \end{aligned}$ | 165,000 |
| Closing stock | $\begin{aligned} & 275000 \\ & (500,000 * 550) \end{aligned}$ | $\begin{aligned} & 110,000 \\ & (200000 * 550) \end{aligned}$ | $(165,000)$ |
|  | 550,000 | 825,000 | $(275,000)$ |
| Under absorbed fixed overheads $(300000 * 300)$ | - | 90,000 | $(90,000)$ |
|  | 550,000 | 915,000 | $(365,000)$ |
| Gross Profit | 200,000 | 210,000 | 10,000 |
| Marketing and administrative expenses | $(1,250)$ | $(1,350)$ | (100) |
| Net profit | 198,750 | 208,650 | 9,900 |

