



**J.K. SHAH**<sup>®</sup>  
**TEST SERIES**  
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**SUGGESTED SOLUTION**  
**IPCC NOVEMBER 2016 EXAM**  
**COSTING**

**Test Code - I N J 1 0 2 1**

**BRANCH - (MUMBAI) (Date :31.07.2016)**

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Answer-1 :

**Budgeted Cost Sheet for the year 2014**

| Particulars                              | (Amount rS.)    |                  |
|--|-----------------|------------------|
| Direct material consumed                 | 12,00,000       |                  |
| Add: 44% due to increased output         | <u>5,28,000</u> |                  |
|  | 17,28,000       |                  |
| Less: 6% for decline in price            | <u>1,03,680</u> | 16,24,320        |
| Direct wages (manufacturing)             | 7,00,000        |                  |
| Add: 60% increase                        | <u>4,20,000</u> | <u>11,20,000</u> |
| Prime cost                               |                 | 27,44,320        |
| <b>Manufactured Overhead:</b>            |                 |                  |
| Fixed                                    | 3,60,000        |                  |
| Add: 20% increase                        | <u>72,000</u>   |                  |
|  | 4,32,000        |                  |
| Variable                                 | 2,50,000        |                  |
| Add: 60% increase                        | <u>1,50,000</u> |                  |
|  | 4,00,000        | <u>8,32,000</u>  |
| Cost of production                       |                 | 35,76,320        |
| Add: 1/9 of Cost or 10% on selling price |                 | <u>3,97,369</u>  |
| <b>Selling price</b>                     |                 | <b>39,73,689</b> |

(6 Marks)

Production will increase by 60% but efficiency will decline by 10%.

160 – 10% of 160 = 144%

So increase by 44%.

**Note:** If we consider that variable overhead once will change because of increase in production (From Rs. 2,50,000 to Rs. 4,00,000) then with efficiency declining by 10% it shall be Rs. 3,60,000 and then again as mentioned in point No. (iii) of this question it will increase by 60% then variable overhead shall be Rs. 3,60,000 x 160% = Rs. 5,76,000. Hence, total costs shall be Rs. 37,52,320 and profit shall be 1/9<sup>th</sup> of Rs. 37,52,320 = Rs. 4,16,924. Thus, selling price shall be Rs. 41,69,244.

(2 Marks)

Answer-2 :

(a) Working Notes

Calculation of Materials used at Site

(Rs.)

|                              |                 |
|------------------------------|-----------------|
| Materials issued to site     | 6,10,000        |
| Add : Opening stock at site  | <u>10,000</u>   |
|                              | 6,20,000        |
| Less : Closing Stock at site | <u>20,000</u>   |
|                              | 6,00,000        |
| Less : Stock shortage        | <u>5,000</u>    |
| Materials used at site       | <u>5,95,000</u> |

(2 Marks)

**Statement showing Profitability of Contract**

(Rs. '000)

|  |            |
|--|------------|
| Cost of work completed (opening balance)     | 300        |
| Materials used at site                       | 595        |
| Wages 580                                    |            |
| Hire charges of plant                        | 110        |
| Other expenses                               | 90         |
| Stock shortage (595 x 0.5 / 100)             | 3          |
| General overheads (2,200 x 5/100) – 15       | <u>95</u>  |
| Cost of contract to date                     | 1,773      |
| Add : Further costs to complete the contract | <u>220</u> |
| Estimated total cost                         | 1,993      |
| Estimated Profit                             | <u>507</u> |

Contract Price 2,500

**(6 Marks)**

Profit to be transferred to Profit and Loss Account

Estimated Profit  $\times \frac{\text{Cost of work to date}}{\text{Estimated total cost}} = 5,07,000 \times \frac{17,73,000}{19,93,000} = \text{Rs. } 4,51,034$  **(1 Mark)**

(b) When the contract value is Rs.40 lakhs instead of Rs.22 lakhs then the profit to be transferred to Profit and Loss Account is calculated as below :

Notional Profit  $\times \frac{2}{3} \times \frac{\text{Cost incurred}}{\text{Work Certified}} = 4,67,000 \times \frac{2}{3} \times \frac{1773}{2200} = \text{Rs. } 2,50,906$  **(1 Mark)**

**Working Notes :**

**Calculation of Notional Profit**

|                                 | <b>Rs.</b>       |
|---------------------------------|------------------|
| Work certified                  | 22,00,000        |
| Work not certified              | <u>40,000</u>    |
|                                 | 22,40,000        |
| Less : Cost of contract to date | <u>17,73,000</u> |
| Notional Profit                 | <u>4,67,000</u>  |

**(2 Marks)**

**Answer-3 :**

(1) Statement of Equivalent Production units of Extrusion, Form, Trim and Finish Materials for Standard, Deluxe and Executive Model of Chairs **(Units)**

| <b>Particulars</b>   | <b>Extrusion materials</b> | <b>Form materials</b> | <b>Trim materials</b> | <b>Finish materials</b> |
|--|----------------------------|-----------------------|-----------------------|-------------------------|
| Equivalent units of materials required to produce three brands of plastic moulded chairs | 19,250                     | 19,250                | 8,750                 | 3,500                   |

**(1 Mark)**

(2) Statement of Material and Conversion Cost per Equivalent Unit

**(Rs.)**

| <b>Particulars</b>  | <b>Extrusion materials</b> | <b>Form materials</b> | <b>Trim materials</b> | <b>Finish materials</b> |
|---|----------------------------|-----------------------|-----------------------|-------------------------|
| Equivalent units  | 19,250                     | 19,250                | 8,750                 | 3,500                   |
| Material costs  | 2,31,000                   | 77,000                | 26,250                | 21,000                  |
| Conversion costs of different operations performed on materials | 6,06,375                   | 2,97,000              | 1,55,250              | 94,500                  |
| Material cost per equivalent unit                               | 12                         | 4                     | 3                     | 6                       |
| Conversion cost per equivalent unit                             | 31.50                      | 15.43                 | 17.74                 | 27                      |

**(4 Marks)**

(i) Statement of Unit and Total Cost model-wise

**(Rs.)**

| <b>Particulars</b>   |      | <b>Standard model cost</b> | <b>Deluxe model cost</b> | <b>Executive model cost</b> |
|----------------------|------|----------------------------|--------------------------|-----------------------------|
| Units                | (i)  | <u>10,500</u>              | <u>5,250</u>             | <u>3,500</u>                |
| Extrusion material   |      | 12.00                      | 12.00                    | 12.00                       |
| Form material        |      | 4.00                       | 4.00                     | 4.00                        |
| Trim material        |      | -                          | 3.00                     | 3.00                        |
| Finish material      |      | -                          | -                        | 6.00                        |
| Extrusion conversion |      | 31.50                      | 31.50                    | 31.50                       |
| Form conversion      |      | 15.43                      | 15.43                    | 15.43                       |
| Trim conversion      |      | -                          | 17.74                    | 17.74                       |
| Finish conversion    |      | -                          | -                        | <u>27.00</u>                |
| Total unit cost      | (ii) | <u>62.93</u>               | <u>83.67</u>             | <u>116.67</u>               |

|            |            |          |          |          |
|------------|------------|----------|----------|----------|
| Total cost | (i) x (ii) | 6,60,765 | 4,39,267 | 4,08,345 |
|------------|------------|----------|----------|----------|

(4 Marks)

(ii) Statement of Cost of 1,500 units of the Deluxe Model of the chairs lying in work-in-progress inventory at the end of May, 2009

| Particulars   | Equivalent(units) | Unit cost (Rs.) | Total cost (Rs.) |
|---|-------------------|-----------------|------------------|
| Extrusion materials   | 1,500             | 12.00           | 18,000           |
| Form materials  | 1,500             | 4.00            | 6,000            |
| Trim materials  | 1,500             | 3.00            | 4,500            |
| Extrusion materials conversion                                  | 1,500             | 31.50           | 47,250           |
| Form materials conversion                                       | 1,500             | 15.43           | 23,145           |
| Trim materials conversion (1,500 units X 65%)                   | 975               | 17.74           | <u>17,296</u>    |
| Total cost of 1,500 units of Delux Model of chairs lying in WIP |                   |                 | 1,16,191         |

(3 Marks)

Answer-4 :

(i) Comparison of alternative Joint-Cost Allocation Methods:

(a) Sales Value at Split-off Point Method

|                                      | Chocolate powder liquor base          | Milk chocolate liquor base            | Total        |
|--------------------------------------|---------------------------------------|---------------------------------------|--------------|
| Sales value of products at split off | Rs. 2,99,250*                         | Rs. 5,55,750**                        | Rs. 8,55,000 |
| Weights                              | 0.35                                  | 0.65                                  | 1.00         |
| Joint cost allocated                 | Rs. 2,49,375<br>(Rs. 7,12,500 × 0.35) | Rs. 4,63,125<br>(Rs. 7,12,500 × 0.65) | Rs. 7,12,500 |

(1 Mark)

\* (3,000 lbs ÷ 200 lbs) × 20 gallon × Rs. 997.50 = Rs. 2,99,250

\*\* (5,100 lbs ÷ 340 lbs) × 30 gallon × Rs. 1,235 = Rs. 5,55,750

(b) Physical Measure Method

|                      | Chocolate powder liquor base          | Milk chocolate liquor base            | Total        |
|----------------------|---------------------------------------|---------------------------------------|--------------|
| Output               | 300 gallon*                           | 450 gallon**                          | 750 gallons  |
| Weight               | 300/750 = 0.40                        | 450/750 = 0.60                        | 1.00         |
| Joint cost allocated | Rs. 2,85,000<br>(Rs. 7,12,500 × 0.40) | Rs. 4,27,500<br>(Rs. 7,12,500 × 0.60) | Rs. 7,12,500 |

(1 Mark)

\* (3,000 lbs ÷ 200 lbs) × 20 gallon = 300 gallon

\*\* (5,100 lbs ÷ 340 lbs) × 30 gallon = 450 gallon

(c) Net Realisable Value (NRV) Method

|   | Chocolate powder liquor base          | Milk chocolate liquor base                | Total         |
|---|---------------------------------------|---|---------------|
| Final sales value of production         | Rs. 5,70,000<br>(3,000 lbs × Rs. 190) | Rs. 12,11,250<br>(5,100 lbs × Rs. 237.50) | Rs. 17,81,250 |
| Less: Separable costs                   | Rs. 3,02,812.50                       | Rs. 6,23,437.50                           | Rs. 9,26,250  |
| Net realisable value at split off point | Rs. 2,67,187.50                       | Rs. 5,87,812.50                           | Rs. 8,55,000  |
| Weight                                  | 0.3125                                | 0.6875                                    | 1.00          |

|                      |  |   |              |
|----------------------|--|---|--------------|
| Joint cost allocated | (2,67,187.50 ÷ 8,55,000)<br>Rs. 2,22,656.25<br>(Rs. 7,12,500 x 0.3125) | (5,87,812.5 ÷ 8,55,000)<br>Rs. 4,89,843.75<br>(Rs. 7,12,500 x 0.6875) | Rs. 7,12,500 |
|----------------------|--|---|--------------|

(3 Marks)

**(d) Constant Gross Margin(%)NRV method**

|                                  | Chocolate powder Liquor base | Milk chocolate liquor Base | Total         |
|----------------------------------|------------------------------|----------------------------|---------------|
| Final sales value of production  | Rs. 5,70,000                 | Rs. 12,11,250              | Rs. 17,81,250 |
| Less: Gross margin* 8%           | Rs. 45,600                   | Rs. 96,900                 | Rs. 1,42,500  |
| Cost of goods available for sale | Rs. 5,24,400                 | Rs. 11,14,350              | Rs.16,38,750  |
| Less: Separable costs            | Rs. 3,02,812.50              | Rs. 6,23,437.50            | Rs. 9,26,250  |
| Joint cost allocated             | Rs. 2,21,587.50              | Rs. 4,90,912.50            | Rs. 7,12,500  |

(3 Marks)

|  |   |
|--|---|
| *Final sales value of total production | = Rs.17,81,250  |
| Less: Joint and separable cost         | = Rs. 16,38,750 (Rs. 7,12,500 + Rs. 9,26,250)                       |
| Gross Margin                           | = Rs. 1,42,500  |
| Gross margin (%)                       | = $\frac{\text{Rs.1,42,500}}{\text{Rs.17,81,250}} \times 100 = 8\%$ |

**(ii) Chocolate powder liquor base**

(Amount in Rs.)

|                                     | Sales value at Split off | Physical Measure | Estimated net Realisable Value | Constant Gross Margin NRV |
|-------------------------------------|--------------------------|------------------|--------------------------------|---------------------------|
| Final sale value ofChocolate powder | 5,70,000                 | 5,70,000         | 5,70,000                       | 5,70,000                  |
| Less: Separable costs               | 3,02,812.50              | 3,02,812.50      | 3,02,812.50                    | 3,02,812.50               |
| Less: Joint costs                   | 2,49,375                 | 2,85,000         | 2,22,656.25                    | 2,21,587.50               |
| Gross Margin                        | 17,812.50                | (17,812.50)      | 44,531.25                      | 45,600                    |
| Gross Margin %                      | 3.125%                   | (3.125%)         | 7.8125%                        | 8.00%                     |

(3 Marks)

**Milk chocolate liquor base**

(Amount in Rs.)

|                                   | Sales value at split off | Physical measure | Estimated net realizable | Constant Gross margin NRV |
|-----------------------------------|--------------------------|------------------|--------------------------|---------------------------|
| Final sale value of milkchocolate | 12,11,250                | 12,11,250        | 1,11,250                 | 12,11,250                 |
| Less: Separable costs             | 6,23,437.50              | 6,23,437.50      | 6,23,437.50              | 6,23,437.50               |
| Less: Joint costs                 | 4,63,125                 | 4,27,500         | 4,89,843.75              | 4,90,912                  |
| Gross Margin                      | 1,24,687.50              | 1,60,312.50      | 97,968.75                | 96,900.50                 |
| Gross Margin %                    | 10.29%                   | 13.24%           | 8.09%                    | 8.00%                     |

(3 Marks)

**(iii) Further processing of Chocolate powder liquor base into Chocolate powder**

(Amount in Rs.)

|  |             |
|--|-------------|
| Incremental revenue {Rs. 5,70,000 – (Rs. 997.50 x 300 gallon)} | 2,70,750    |
| Less: Incremental costs  | 3,02,812.50 |
| Incremental operating income                                   | (32,062.50) |

(2 Marks)

**Further processing of Milk Chocolate liquor base into Milk Chocolate.**

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|  | (Amount in Rs.) |
|--|-----------------|
| Incremental revenue {Rs. 12,11,250 – (Rs. 1,235 x 450 gallon)} | 6,55,500        |
| Less: Incremental cost   | 6,23,437.50     |
| Incremental operating income                                   | 32,062.50       |

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(2 Marks)

The above computations show that Pokemon Chocolates could increase operating income by Rs. 32,062.50 if chocolate liquor base is sold at split off point and milk chocolate liquor base is processed further.