J.K. SHAH
TEST SERIES
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SUGGESTED SOLUTION

# IPCC NOVEMBER 2016 EXAM

**COSTING**

**Test Code -** I N J1 1 0 3

**BRANCH - (MUMBAI) (Date :10.07.2016)**

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**Answer-1 :**

**Calculation of Price of the Delhi-Jaipur-Agra-Delhi tour package**

| **Particulars** | **Amount (Rs.)** | **Amount (Rs.)** |
|---|---|---|
| Diesel Cost (Working Note-2) | | 2,635.00 |
| Servicing Cost $\left(\frac{\text{Rs.}30,000}{50,000 \text{ kms}} \text{ x } 754 \text{ kms.}\right)$ | | 452.40 |
| Chauffeur's meal cost (three 200 km. completed journey x Rs.50) | | 150.00 |
| **Other Allocable Costs :** | | |
| Depreciation $\left(\frac{\text{Rs.}12,00,000}{24,00,000 \text{ kms}} \text{ x } 754 \text{ kms.}\right)$ | 377.00 | |
| Other set-up and office cost $\left(\frac{\text{Rs.}2,400}{30 \text{ days}} \text{ x } 3 \text{ days}\right)$ | 240.00 | |
| Chauffeur's Salary $\left(\frac{\text{Rs.}12,000}{30 \text{ days}} \text{ x } 3 \text{ days}\right)$ | 1,200.00 | 1,817.00 |
| Total Cost | | 5,054.40 |
| Add : Profit (25% of net takings or 1/3$^{rd}$ of total cost) | | 1,684.80 |
| | | 6,739.20 |
| Add : Service Tax @ 12.36% | | 832.97 |
| **Price of the package (inclusive of service tax)** | | **7,572.17** |

**(6 Marks)**

**Working Notes :**

**(1) Total distance of journey**

| **From** | **To** | **Distance (Km.)** |
|---|---|---|
| Delhi | Jaipur | 274 |
| Jaipur | Agra | 238 |
| Agra | Delhi | 242 |
| Total Distance | | 754 |

**(1 Mark)**

**(2) Cost of Diesel**

| **From** | **To** | **Distance (in Km.)** | **Price of diesel per litre (Rs.)** | **Total diesel Cost (Rs.)** |
|---|---|---|---|---|
| I | II | III | IV | V = (III + 16 km) x IV |
| Delhi | Jaipur | 274 | 54 | 924.75 |
| Jaipur | Agra | 238 | 56 | 833.00 |
| Agra | Delhi | 242 | 58 | 877.25 |
| | | | | 2635.00 |

**(1 Mark)**

**Answer-2 :**

**Working Notes:**

**1. Calculation of Notional Profit:**

| | **Rs.** |
|---|---|
| Value of work certified | 21,07,500 |
| Cost of work not certified | 3,11,075 |
| | 24,18,575 |
| Less: Total expenditure to date | 17,64,525 |
| **Notional Profit** | **6,54,050** |

**(2 Marks)**

**2. Calculation of total Contract Price:**

| | Rs. |
|---|---:|
| Total expenditure to date | 17,64,525 |
| Estimated further expenditure | 8,38,645 |
| Total estimated cost | 26,03,170 |
| Add: Margin@40% | 10,41,268 |
| Total contract Price | 36,44,438 |

**(2 Marks)**

**3. Calculation of percentage (%) of contract completion:**

$$= \frac{\text{Value of wor certified}}{\text{Total Contract Price}} \times 100$$

$$= \frac{\text{Rs.21,07,500}}{\text{Rs.36,44,438}} \times 100 = 57.83\%$$

**(1 Mark)**

**(i) Conservative estimate of profit for the management**

$$= 2/3 \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Value of Work of certified}}$$

$$= 2/3 \times \text{Rs.6,54,050} \times \frac{\text{Rs.14,75,250}}{\text{Rs.21,07,500}} = \text{Rs.3,05,223}$$

**(1 Mark)**

(ii) When the management of Hut-to-Palace appreciates the fact that the contractee is having liquidity crunch and it may not be able to pay further cash Payment. In this situation, following the concept of conservatism it has to recognise loss if any immediately i.e.

Cash Received - Expenditure to date = Profit/(Loss)

Rs. 14,75,250 – Rs. 17,64,525 = (Rs.2,89,275)

**(2 Marks)**

**Answer-3 :**

| Input | | Output | | Equivalent production | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Material A | | Material B | | Lab. &OHs | |
| Item | Units | Item | Units | Units | % | Units | % | Units | % |
| Op. Stock | 2,000 | Work on op. WIP | 2,000 | - | - | 400 | 20 | 800 | 40 |
| Process II transfer | 53,000 | Introduced & completed during the period (48,000 – 2,000) | 46,000 | 46,000 | 100 | 46,000 | 100 | 46,000 | 100 |
| | | | 48,000 | | | | | | |
| | | Normal Loss (2,000 + 53,000 – 5,000) x 5% | 2,500 | - | - | - | - | - | - |
| | | Closing WIP | 5,000 | 5,000 | 100 | 3,500 | 70 | 2,500 | 50 |
| | | | 55,500 | 51,000 | | 49,900 | | 49,300 | |
| | | Abnormal Gain | 500 | 500 | 100 | 500 | 100 | 500 | 100 |
| | 55,000 | | 55,000 | 50,500 | | 49,400 | | 48,800 | |

**(4 Marks)**

* Material A represents transfer in units from Process-II

**Statement of Cost for each Element**

| **Element of cost** | **Cost (Rs.)** | **Equivalent Production** | **Cost per unit (Rs.)** |
|---|---:|---:|---:|
| Material A | | | |
| - Transferred from Process-II | 4,11,500 | | |
| - Less: Scrap realisation (2,500 × Rs.3) | (7,500) | | |
| | 4,04,000 | 50,500 | 8.00 |
| Material B | 1,97,600 | 49,400 | 4.00 |
| Wages | 97,600 | 48,800 | 2.00 |
| Overheads | 48,800 | 48,800 | 1.00 |

| | |
|---|---|
| 7,48,000 | 15.00 |

**(2 Marks)**

**Process Cost Sheet (in Rs.)**

| | |
|---|---|
| Opening W-I-P: | |
| - Material B (400 × Rs. 4) | 1,600 |
| - Wages (800 × Rs. 2) | 1,600 |
| - Overheads (800 × Rs.1) | 800 |
| | 4,000 |
| **Introduced and completely processed during the period (46,000 × Rs. 15)** | **6,90,000** |
| Closing W-I-P: | |
| Material A (5,000 × Rs. 8) | 40,000 |
| Material B (3,500 × Rs. 4) | 14,000 |
| Wages (2,500 × Rs. 2) | 5,000 |
| Overheads (2,500 × Rs. 1) | 2,500 |
| | 61,500 |
| Abnormal Gain (500 × Rs. 15) | 7,500 |

**(3 Marks)**

**Process III A/c**

| | Units | Amount | | Units | Amount |
|---|---|---|---|---|---|
| To Balance b/d | 2,000 | 25,750 | By Normal Loss | 2,500 | 7,500 |
| To Process II A/c. | 53,000 | 4,11,500 | By Process IV A/c | | |
| | | | (6,90,000 + 4,000+25,750) | 48,000 | 7,19,750 |
| To Direct Material | 1,97,600 | | By Bal c/d | 5,000 | 61,500 |
| To Direct Wages | 97,600 | | | | |
| To ProdnOHs | 48,800 | | | | |
| To Abnormal Gain | 500 | 7,500 | | | |
| | **55,500** | **7,88,750** | | **55,500** | **7,88,750** |

**(3 Marks)**

**Answer-4 :**

**Budgeted Cost Sheet for the year 2014**

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

**(7 Marks)**

Production will increase by 60% but efficiency will decline by 10%.
160 – 10% of 160 = 144%
So increase by 44%. **(1 Mark)**

**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 1/9th of Rs.37,52,320 = Rs.4,16,924. Thus, selling price shall be Rs. 41,69,244.

**Answer-5 :**

**(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 | Rs. 4,63,125 | Rs. 7,12,500 |
| | (Rs.7,12,500 ×0.35) | (Rs.7,12,500 ×0.65) | |

**(2 Marks)**

*(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 | Rs. 4,27,500 | Rs. 7,12,500 |
| | (Rs. 7,12,500 x 0.40) | (Rs. 7,12,500 x 0.60) | |

**(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 | Rs. 12,11,250 | Rs. 17,81,250 |
| | (3,000 lbs × Rs.190) | (5,100 lbs × Rs. 237.50) | |
| 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 |
| | (2,67,187.50 ÷ 8,55,000) | (5,87,812.5 ÷ 8,55,000) | |
| Joint cost allocated | Rs. 2,22,656.25 | Rs. 4,89,843.75 | Rs. 7,12,500 |
| | (Rs. 7,12,500 x 0.3125) | (Rs. 7,12,500 x 0.6875) | |

**(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 |

**(2 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 of Chocolate 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% |

**(2 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 milk chocolate | 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% |

**(2 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) |

**(1 Mark)**

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

| | (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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**(1 Mark)**

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.