

INTERMEDIATE EXAMINATION

GROUP -II (SYLLABUS 2016)

SUGGESTED ANSWERS TO QUESTIONS

DECEMBER- 2019

Paper-8 : COST ACCOUNTING

Time Allowed : 3 Hours

Full Marks : 100

The figures in the margin on the right side indicate full marks.
All Sections are compulsory. Each section contains instructions regarding the number of questions to be answered within the section.

All working notes must form part of the answer.

Wherever necessary, candidates may make appropriate assumptions and clearly state them.

No present value factor table or other statistical table will be provided in addition to this question paper.

Section - A

Section A contains Question Number 1. All parts of this question are compulsory.

1. Answer the following questions:

(a) Choose the correct answer from the given alternatives (You may write only the Roman numeral and the alphabet chosen for your answer): $1 \times 10 = 10$

(i) Costs which are ascertained after they have been incurred are known as

- (A) Sunk Costs
- (B) Imputed Costs
- (C) Historical Costs
- (D) Opportunity Costs

(ii) Prime cost plus variable overheads is known as

- (A) Factory Cost
- (B) Marginal Cost
- (C) Cost of Production
- (D) Total Cost

(iii) In which of the following methods, issue of materials are priced at pre-determined rate?

- (A) Specific price method
- (B) Standard price method
- (C) Inflated price method
- (D) Replacement price method

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

- (iv) For reducing the labour cost per unit, which of the following factors is the most important?
- (A) Low wage rates
 - (B) Longer hours of work
 - (C) Higher input-output ratio
 - (D) Strict control and supervision
- (v) Maximum possible productive capacity of a plant when no operating time is lost is its
- (A) Normal capacity
 - (B) Practical capacity
 - (C) Theoretical capacity
 - (D) Capacity based on sales expectancy
- (vi) In job costing, which of the following documents is used to record the issue of direct materials to a job?
- (A) Goods Receipt Note
 - (B) Purchase Order
 - (C) Purchase Requisition Note
 - (D) Material Requisition Note
- (vii) The main purpose of accounting of joint products and by-products is to
- (A) determine the profit/loss on each product line.
 - (B) determine the selling price.
 - (C) comply with the statutory requirements.
 - (D) identify the cost and load it on the main product.
- (viii) During a period 2560 labour hours were worked at a standard rate of Rs. 7.50 per hour. The direct labour efficiency variance was Rs. 825 (A). How many standard hours were produced?
- (A) 2400
 - (B) 2450
 - (C) 2500
 - (D) 2550
- (ix) PQR Ltd. manufactures a single product which it sells for Rs. 40 per unit. Fixed cost is Rs. 60,000 per year. The contribution to sales ratio is 40%. PQR Ltd.'s Break Even Point in units is
- (A) 3500
 - (B) 3700
 - (C) 3750
 - (D) 4000
- (x) The fixed-variable cost classification has a special significance in the preparation of
- (A) Cash budget
 - (B) Master budget
 - (C) Flexible budget
 - (D) Capital budget

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

- (b) Match the statement in Column I with the most appropriate statement in Column II (You may opt to write only the Roman numeral and the matched alphabet instead of copying contents into the answer books): 1x5=5

| | Column I | | Column II |
|-------|------------------|---|---------------------|
| (i) | Notional cost | A | Replacement method |
| (ii) | Labour turnover | B | Cost of utilities |
| (iii) | CAS-10 | C | Production strategy |
| (iv) | Contract costing | D | Direct expenses |
| (v) | JIT | E | Costing department |
| | | F | Imputed cost |
| | | G | Escalation clause |
| | | H | Decision package |

- (c) State whether the following are 'True' or 'False': (You may write only the Roman numeral and whether 'True' or 'False' without copying the statements into the answer books):

1x5=5

- (i) Profit is the result of two varying factors sales and variable cost.
- (ii) Bin card is a record of both quantities and value.
- (iii) Overtime premium is directly assigned to cost object.
- (iv) In Reconciliation statements, expenses shown only in financial accounts are added to financial profit.
- (v) P/V ratio remains constant at all levels of activity.

- (d) Fill in the blanks: (You may write only the Roman numeral and the content filling the blanks) 1x5=5

- (i) _____ costs are historical costs which are incurred in the past.
- (ii) In Absorption costing, _____ cost is added to inventory.
- (iii) CAS-2 deals with Cost Accounting Standard on _____ determination.
- (iv) _____ is the summary of all functional budgets.
- (v) Standard costing is one of the _____ techniques.

Answer:

1. (a) (i) (C)
(ii) (B)
(iii) (B)
(iv) (C)
(v) (C)
(vi) (D)
(vii) (A)
(viii) (B)
(ix) (C)
(x) (C)

- (b)

| | Column I | | Column II |
|-------|------------------|---|---------------------|
| (i) | Notional cost | F | Imputed cost |
| (ii) | Labour turnover | A | Replacement method |
| (iii) | CAS-10 | D | Direct expenses |
| (iv) | Contract costing | G | Escalation clause |
| (v) | JIT | C | Production strategy |

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

- (c) (i) False
(ii) False
(iii) True
(iv) True
(v) True
- (d) (i) Sunk
(ii) Fixed
(iii) Capacity
(iv) Master budget
(v) Cost Control

Section - B

Answer any five questions from question numbers 2 to 8.
Each question carries 15 marks.

15 × 5 = 75

2. (a) ZION LTD uses three types of materials A, B and C for production of Product-P for which the following data apply:

| Raw Material | Usage per unit of Product (kgs) | Reorder quantity (kgs) | Price per Kg (Re.) | Delivery period (in weeks) | | | Reorder level (kgs) | Minimum level (kgs) |
|--------------|---------------------------------|------------------------|--------------------|----------------------------|---------|---------|---------------------|---------------------|
| | | | | Minimum | Average | Maximum | | |
| A | 10 | 10000 | 0.10 | 1 | 2 | 3 | 8000 | ? |
| B | 4 | 5000 | 0.30 | 3 | 4 | 5 | 4750 | 1550 |
| C | 6 | 10000 | 0.15 | 2 | 3 | 4 | ? | 2000 |

Weekly production varies from 175 to 225 units, averaging 200 units of the said product.

What would be the following quantities?

9

- (i) Minimum stock of A,
(ii) Maximum stock of B,
(iii) Re-order level of C,
(iv) Average stock level of A.

- (b) In a manufacturing unit of EXOTICA LTD overhead was recovered at a predetermined rate of Rs. 30 per man-day. The total factory overhead incurred and the man-days actually worked were Rs. 5,20,000 and 12,500 respectively.

Out of the 40000 units produced during a period, 30000 units were sold. There were also 30000 uncompleted units which may be reckoned at 60% complete.

On analysing the reasons, it was found that 50% of the unabsorbed overheads were due to defective planning and the rest were attributable to increased overhead costs. How would unabsorbed overhead be treated in Cost Accounts?

6

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

Answer:

2. (a) (i) Minimum stock of A
 Re-order level - (Average rate of consumption x Average time required to obtain fresh delivery)
 = 8,000kgs. - (200 x 10 x 2) kgs = 4,000 kgs.
- (ii) Maximum stock of B
 Re-order level - (Minimum consumption x Minimum delivery period) + Re-order quantity
 = 4,750kgs. - (175 x 4 x 3)kgs. + 5,000kgs.
 = 9,750 - 2,100 = 7,650 kgs.
- (iii) Re-order level of C
 Maximum delivery period x Maximum usage
 = 4 x 225 x 6 = 5,400 kgs.
 OR
 Re-order level of C
 = Minimum stock of C + [Average rate of consumption x Average time required to obtain fresh delivery]
 = 2,000kgs. + [(200 x 6) x 3] kgs. = 5,600 kgs.
- (iv) Average stock level of A
 = Minimum stock level of A + ½ Re-order quantity of A
 = 4,000kgs. + ½ x 10,000kgs. = 4,000kgs. + 5,000kgs. = 9,000 kgs.
 OR
 Average Stock Level of A

$$\frac{\text{Minimum Stock level of A} + \text{Maximum Stock Level of A}}{2} = \text{(Refer to working note)}$$

$$\frac{4,000 + 16,250}{2} = 10,125 \text{ Kgs.}$$

Working note:

$$\begin{aligned} \text{Maximum stock level of A} &= \text{ROL} + \text{ROQ} - (\text{Minimum consumption} \times \text{Minimum re-order period}) \\ &= 8,000\text{kgs.} + 10,000\text{kgs.} - [(175 \times 10) \times 1] \text{ kgs.} \\ &= 16,250 \text{ kgs.} \end{aligned}$$

(b)

| | Amount (Rs.) |
|--|-----------------|
| Overheads incurred | 5,20,000 |
| Less: Overheads absorbed (12,500 man-days * Rs.30) | <u>3,75,000</u> |
| Under absorption | <u>1,45,000</u> |

The under absorption of Rs. 1,45,000 being considerable whether due to defective planning or due to increase in prices, would be disposed off by applying Supplementary Overhead Rate in the following manner:

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

Supplementary Overhead Rate = Rs. 1,45,000/[{30,000+10,000+(30,000*60%)}Units]
 = Rs. 1,45,000/58,000 units = Rs. 2.50 per Unit
 To be absorbed on cost of goods sold = 30,000 Units×Rs. 2.50 = Rs.75,000
 To be absorbed on closing stock = 10,000 Units ×Rs. 2.50 = Rs. 25,000
 To be absorbed on work-in-progress = 30,000Units ×Rs.2.50×60% =Rs. 45,000

ALTERNATIVE ANSWER 2(b):

| | Amount (Rs.) |
|--|-----------------|
| Overheads incurred | 5,20,000 |
| Less: Overheads absorbed (12,500 man days × Rs.30) | <u>3,75,000</u> |
| Under absorption | <u>1,45,000</u> |

Students may treat 50% of under-absorption (Rs. 72,500) due to defective Planning as Abnormal Loss to be debited to Costing Profit & Loss Account and balance Rs. 72,500 to be disposed off by applying Supplementary Overhead Rate in the following manner:

Supplementary Overhead Rate = Rs. $\frac{72,500}{[30,000+10,000+(30,000 \times 60\%)]units}$
 = Rs. 72,500 /58,000 units = Rs. 1.25 per unit.

To be absorbed on Cost of Goods Sold = 30,000 units × Rs.1.25 = Rs.37,500
 To be absorbed on Closing Stock = 10,000 units × Rs. 1.25 = Rs 12,500
 To be absorbed on Work-in-progress = 30,000 units × Rs.1.25× 60% = Rs. 22,500

3. (a) What are the objectives and scope of Cost Accounting Standard (CAS-4) (Revised 2018) on "Cost of Production/Acquisition/Supply of Goods/Provision of Services"? 6

(b) Pass the Journal entries for the following transactions in a double entry cost accounting system: 9

| Particulars | Amount (Rs.) |
|---|--------------|
| (i) Issue of material: | |
| Direct | 6,50,000 |
| Indirect | 2,50,000 |
| (ii) Allocation of wages and salaries: | |
| Direct | 2,60,000 |
| Indirect | 40,000 |
| (iii) Overheads absorbed in jobs: | |
| Factory | 1,50,000 |
| Administration | 30,000 |
| Selling | 50,000 |
| (iv) Under/over absorbed overheads: | |
| Factory (over) | 25,000 |
| Administration (under) | 12,500 |
| (Narration is not required) | |

Answer:

3. (a) CAS-4 (REVISED 2018) on "Cost of Production/Acquisition/Supply of Goods/Provision of Services"

Objectives: The objective of this Standard is to bring uniformity and consistency in the principles and methods of determining the cost of production or acquisition or supply of Goods or provision of services as required under the provisions of GST Act/Rules.

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

The cost statements prepared based on this Standard will be used for determination of value of supply of Goods or services or both. This Standard and its disclosure requirement will provide transparency in the valuation of Goods and services.

This Standard shall further ensure adequate accuracy in computing Transaction Value of supply for Goods or services or both, where the open market value of supply of Goods and services or value of supply of Goods or services of like kind and quality are not available or same is not verifiable.

Scope: This Standard should be applied to cost statements which require classification, measurement, assignment, presentation, and disclosure of related costs for determination of the following under the relevant provisions of GST Act/Rules:

- (i) Determination of cost of production of Goods;
- (ii) Determination of cost of acquisition of Goods;
- (iii) Determination of cost of supply of Goods;
- (iv) Determination of cost of provision/supply of services; and
- (v) Determination of value of supply of goods or services as per open market value or as per Goods or services of like kind and quality.

(b)

| Journal Dr. Cr. | | | | |
|-----------------|--|-------------------|------------------------------|--|
| S.No. | Particulars | | Amount (Rs.) | Amount (Rs.) |
| 1 | Work in Progress Control A/C Factory Overheads Control A/C To Material Control A/C | Dr. Dr. | 6,50,000 2,50,000 | 9,00,000 |
| 2 | Work in Progress Control A/C Factory Overheads Control A/C To Wages Control A/C | Dr. Dr. | 2,60,000 40,000 | 3,00,000 |
| 3 | Work in Progress Control A/C Finished Goods Control A/C Cost of Sales A/C To Factory Overheads Control A/C To Administrative Overhead Control A/C To Selling Overhead Control A/C | Dr. Dr. Dr. | 1,50,000 30,000 50,000 | 1,50,000 30,000 50,000 |
| 4 | Factory Overheads Control A/C To Costing Profit & Loss A/C | Dr. | 25,000 | 25,000 |
| 5 | Costing Profit & Loss A/C To Administrative Overheads Control A/C | Dr. | 12,500 | 12,500 |

4. (a) SARATHI & CO is manufacturing building bricks and fire bricks. Both the products require two processes: Brick forming and Heat treatment. The requirements for the two bricks are:

| | Building Bricks | Fire Bricks |
|-------------------------------|-----------------|-------------|
| Forming per 100 bricks | 6 hours | 4 hours |
| Heat treatment per 100 bricks | 4 hours | 10 hours |

Total costs of the two departments in one month were:

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

| | |
|----------------------------------|----------------|
| Forming | Rs. 42,400 |
| Heat treatment | Rs. 97,600 |
| Production during the month was: | |
| Building Bricks | 130000 numbers |
| Fire Bricks | 70000 numbers |

Required:

Prepare statement of manufacturing cost for the two varieties of bricks. 7

(b) REACON LTD is engaged in process Engineering Industry. During a month 4000 units of input were introduced in Process B at a cost of Rs. 20,000. The normal loss was estimated at 10% of input. The process costs were direct materials Rs. 10,425, direct wages Rs. 20,400 and factory overhead 50% of direct wages. At the end of the month 3200 units were produced and transferred to Process C, 500 units were scrapped and realised @ Rs. 5 per unit. Scrapped units were 50% processed. 300 units were incomplete and the stage of completion was material 75%, wages and overhead 50%.

Required:

- (i) Find out equivalent production, cost per completed unit, value of work-in-progress and
- (ii) Prepare Process B account. 8

Answer:

4. (a)

Statement showing number of hours

| Particulars | Building Bricks | Fire Bricks | Total |
|---|-----------------|--------------|---------------|
| Forming: $\left(\frac{1,30,000}{100} \times 6\right)$ $\left(\frac{70,000}{100} \times 4\right)$ | 7,800 | 2,800 | 10,600 |
| Heat Treatment $\left(\frac{1,30,000}{100} \times 4\right)$ $\left(\frac{70,000}{100} \times 10\right)$ | 5,200 | 7,000 | 12,200 |
| Total | 13,000 | 9,800 | 22,800 |

$$\text{Cost of Forming per hour} = \frac{\text{Rs. } 42,400}{10,600} = \text{Rs. } 4$$

$$\text{Cost of Heat Treatment per hour} = \frac{\text{Rs. } 97,600}{12,200} = \text{Rs. } 8$$

Statement showing manufacturing cost of two varieties of bricks:

| Particulars | Building Bricks Rs. | Fire Bricks Rs. | Total Rs. |
|--|------------------------|--------------------|--------------|
| Forming: (7,800 Hrs. × Rs. 4) (2,800 Hrs. × Rs. 4) | 31,200 | 11,200 | 42,400 |
| Heat Treatment (5,200 Hrs. × Rs. 8) (7,000 Hrs. × Rs. 8) | 41,600 | 56,000 | |

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

| | | |
|--------------|--------|----------|
| | | 97,600 |
| Total | 72,800 | 67,200 |
| | | 1,40,000 |

ALTERNATIVE PRESENTATION OF SECOND PART AS UNDER:

Where students consider Cost of Production per 100 Bricks:

Statement showing manufacturing cost of two varieties of bricks:

| Particulars | Building Bricks Rs. | Fire Bricks Rs. | Total Rs. |
|---|------------------------|--------------------|--------------|
| Forming: (6 Hrs. × Rs. 4) (4 Hrs. × Rs. 4) | 24 | 16 | 40 |
| Heat Treatment (4 Hrs. × Rs. 8) (10 Hrs. × Rs. 8) | 32 | 80 | 112 |
| Total | 56 | 96 | 152 |

(b) (i) Statement of Equivalent Production:

| Input | Particulars of output | Units | Equivalent Production | | | | | |
|--------------|--|--------------|-----------------------|--------------|------------------------|--------------|----------------------|--------------|
| | | | Material I (Input) | | Material II (Added) | | Labour & Overhead | |
| | | | % | Units | % | Units | % | Units |
| 4,000 | Fully completed and transferred to process C | 3,200 | 100 | 3,200 | 100 | 3,200 | 100 | 3,200 |
| | Normal Wastage | 400 | --- | --- | --- | --- | --- | --- |
| | Abnormal Wastage | 100 | 100 | 100 | 50 | 50 | 50 | 50 |
| | WIP at end | <u>300</u> | 100 | <u>300</u> | 75 | <u>225</u> | 50 | <u>150</u> |
| <u>4,000</u> | Total | <u>4,000</u> | | <u>3,600</u> | | <u>3,475</u> | | <u>3,400</u> |

Statement of Cost

| Elements of Cost | Amount (Rs.) | Equivalent Production (Nos.) | Unit Cost (Rs.) |
|---|-----------------|---------------------------------|--------------------|
| Material I (Input) (Rs. 20,000–Rs. 2,000) | 18,000 | 3,600 | 5.00 |
| Material II (Added) | 10,425 | 3,475 | 3.00 |
| Wages | 20,400 | 3,400 | 6.00 |
| Overheads | 10,200 | 3,400 | 3.00 |
| Total | 59,025 | - | 17.00 |

Statement of Evaluation

| Elements of Cost | Unit Cost (₹) | Work in Progress | | Abnormal Loss | |
|------------------|------------------|------------------|------------|---------------|--------------|
| | | E.P. | Cost (Rs.) | E.P. | Cost (Rs.) |
| Material I | 5.00 | 300 | 1,500 | 100 | 500 |
| Material II | 3.00 | 225 | 675 | 50 | 150 |
| Wages | 6.00 | 150 | 900 | 50 | 300 |
| Overheads | <u>3.00</u> | 150 | <u>450</u> | 50 | <u>150</u> |
| Total | <u>17.00</u> | | 3,525 | | <u>1,100</u> |

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

(ii)

| Dr. | | | Process B Account | | | Cr. | | |
|--------------------|--------------|---------------|-----------------------------|--------------|---------------|-----|--|--|
| Particulars | Units | ₹ | Particulars | Units | Rs. | | | |
| To Input | 4,000 | 20,000 | By Normal Wastage | 400 | 2,000 | | | |
| To Materials Added | | 10,425 | By Abnormal Wastage | 100 | 1,100 | | | |
| To Wages | | 20,400 | By Work-in-Progress | 300 | 3,525 | | | |
| To Overheads | | <u>10,200</u> | By Process C (3,200×Rs. 17) | <u>3,200</u> | <u>54,400</u> | | | |
| | <u>4,000</u> | <u>61,025</u> | | <u>4,000</u> | <u>61,025</u> | | | |

5. (a) HOTEL IREVNA INN, has a capacity of 200 single rooms and 40 double rooms. The average occupancy of both single and double rooms is expected to be 80% throughout the year of 365 days. The rent for double room has been fixed at 125% of the rent of a single room. The costs are as under:

| | | |
|------------------|--------------|----------------------|
| Variable Costs : | Single Rooms | Rs. 110 each per day |
| | Double Rooms | Rs. 175 each per day |
| Fixed Costs: | Single Rooms | Rs. 60 each per day |
| | Double Rooms | Rs. 125 each per day |

Required:

Calculate the rent chargeable for each single room and double room per day in such a way that the hotel earns a margin of safety of 20% on rent of rooms. 7

- (b) OMEGA LTD undertook a contract for the construction of a building at a contract price of Rs. 45,00,000. During the first year, the following amounts were spent against which a sum of Rs. 16,87,500 (representing 90% of the work certified) was received by the contractor:

| | Rs. |
|---------------------------|----------|
| Materials used | 7,87,500 |
| Wages paid to the workers | 4,50,000 |
| Overhead expenses | 1,12,500 |

During the second year, the contractor spent the following amounts:

| | Rs. |
|---------------------------|-----------|
| Materials used | 11,25,000 |
| Wages paid to the workers | 9,00,000 |
| Overhead expenses | 2,25,000 |

In the second year, the contract was completed and a sum of Rs.26,25,000 was received by the contractor.

You are required to prepare the Contract Account and the Contractee Account for both the years and determine the profits. 8

Answer:

5. (a)

Occupancy (Number of room days in a year):

| Nature of Room | Occupancy |
|----------------|---|
| Single Rooms | $200 \times 365 \times 80\% = 58,400$ Room days |
| Double Rooms | $40 \times 365 \times 80\% = 11,680$ Room days |

Computation of Total Cost:

| Variable Costs: | Amount (Rs.) | Amount (Rs.) |
|---|--------------|--------------|
| Single Rooms (58,400 Room days × Rs. 110) | 64,24,000 | |

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

| | | |
|---|------------------|--------------------|
| Double Rooms (11,680 Room days × Rs. 175) | <u>20,44,000</u> | 84,68,000 |
| Fixed Costs: | | |
| Single Rooms (58,400 Room days × Rs. 60) | 35,04,000 | |
| Double Rooms (11,680 Room days × Rs. 125) | <u>14,60,000</u> | <u>49,64,000</u> |
| Total Costs | | <u>1,34,32,000</u> |

Computation of Total Revenue:

Margin of safety 20%, Break Even Point 80%

Sales at BEP = Total Cost = Rs. 1,34,32,000

Total Revenue = Rs. 1,34,32,000 / 0.80 = Rs. 1,67,90,000

Computation of Notional Single Rooms Day:

Single Rooms (58,400 × 1) 58,400

Double Rooms (11,680 × 1.25) 14,600

Total: 73,000

Computation of Room Rent:

Rent per day per Single Room = Rs. 1,67,90,000 / 73,000 = Rs. 230

Rent per day per Double Room = Rs. 230 × 1.25 = Rs. 287.50

(b): Contract Account

(At the end of 1st Year)

| Particulars | Rs. | Particulars | Rs. |
|--|------------------|---|------------------|
| To Materials Used | 7,87,500 | By Work-in-Progress (16,87,500 / 0.90) | 18,75,000 |
| To Wages Paid | 4,50,000 | | |
| To Overhead Expenses | 1,12,500 | | |
| To Notional Profit c/d | <u>5,25,000</u> | | - |
| | <u>18,75,000</u> | | <u>18,75,000</u> |
| To Profit & Loss A/c (Rs. 5,25,000 × $\frac{1}{3}$ × 90%) | 1,57,500 | By Notional Profit b/d | 5,25,000 |
| To Work-in- Progress (Reserve) | 3,67,500 | | |
| | <u>5,25,000</u> | | <u>5,25,000</u> |

Contractee Account

| Particulars | Rs. | Particulars | Rs. |
|----------------|------------------|-------------|------------------|
| To Balance c/d | <u>16,87,500</u> | By Bank A/c | <u>16,87,500</u> |
| | <u>16,87,500</u> | | <u>16,87,500</u> |

Contract Account

(On completion of Contract in the 2nd Year)

| Particulars | Rs. | Particulars | Rs. |
|---|------------------|-----------------------|------------------|
| To Work-in-Progress (Rs. 18,75,000 – Rs. 3,67,500) | 15,07,500 | By Contractee Account | 45,00,000 |
| To Materials Used | 11,25,000 | | |
| To Wages Paid | 9,00,000 | | |
| To Overhead Expenses | 2,25,000 | | |
| To Profit & Loss A/c (Transfer) | <u>7,42,500</u> | | - |
| | <u>45,00,000</u> | | <u>45,00,000</u> |

Contractee Account

| Particulars | Rs. | Particulars | Rs. |
|-----------------|------------------|----------------|------------------|
| To Contract A/c | 45,00,000 | By Balance b/d | 16,87,500 |
| | | By Bank A/c | 26,25,000 |
| | | By Balance c/d | <u>1,87,500</u> |
| | <u>45,00,000</u> | | <u>45,00,000</u> |

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

6. (a) PANCHAL LTD, a toy manufacturer earns an average net profit of Rs. 1.80 per piece on a selling price of Rs. 16.50 by producing and selling 12000 pieces or 60% of the capacity. His cost of sales per toy is as under:

| | Amount (Rs.) |
|-----------------------------|--------------|
| Direct material | 4.25 |
| Direct wages | 1.60 |
| Works Overheads (40% fixed) | 7.15 |
| Sales Overheads (30% fixed) | 0.90 |

During the current year, he intends to produce the same number of toys but anticipates that fixed cost will go up by 10%. Direct wages and material will increase by 6% and 4% respectively but he has no option of increasing the selling price. Under this situation, he obtains an offer for further sale of 20% of the capacity.

Required:

What minimum price you will recommend for acceptance of the offer to ensure the manufacturer an overall profit of Rs. 30,100? 8

(Show your calculations upto 3 decimal points.)

- (b) The following data pertaining to sales and profit are extracted from the records of READYAAH LTD. for two years:

| | Sales | Profit |
|-----------|---------------|--------------|
| Year 2017 | Rs. 12,00,000 | Rs. 80,000 |
| Year 2018 | Rs. 14,00,000 | Rs. 1,30,000 |

Required:

Calculate the following:

- (i) P/V Ratio
- (ii) Break Even Point
- (iii) Profit when sales are Rs. 18,00,000
- (iv) Sales required to earn a profit of Rs. 1,20,000
- (v) Margin of safety in the year 2018. 7

Answer:

6. (a)

Computation of Profit at present after increase in Cost

| | Particulars | Amount (Rs.) | Amount (Rs.) |
|-----|--|--------------|--------------|
| I. | Selling Price | | 16.500 |
| II | Variable Cost: | | |
| | Direct Material $(4.25 \times 104) / 100$ | 4.420 | |
| | Direct Wages $(1.60 \times 106) / 100$ | 1.696 | |
| | Works Overheads (60% of Rs. 7.15) | 4.290 | |
| | Sales Overheads (70% of Re. 0.90) | 0.630 | |
| | Other Variable Cost: (S.P Rs. 16.50) – (Profit Rs. 1.80) - Cost of Sales Rs. (DM 4.25 + DW 1.60 + WO 7.15 + SO 0.90) | 0.800 | 11.836 |
| III | Contribution per Unit/ Piece (I – II) | | 4.664 |
| IV | Total Contribution (12,000 Units/Pieces \times Rs. 4.664) | | 55,968 |
| V | Fixed Cost: | | |
| | Works Overheads | 2.860 | |

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

| | | | |
|----|--|--------------|---------------|
| | Sales Overheads | <u>0,270</u> | |
| | | <u>3,130</u> | |
| | (Rs. 3.13 × 12,000 Units = Rs. 37,560 × 110) / 100 | | <u>41,316</u> |
| VI | Profit (IV – V) | | <u>14,652</u> |

Computation of Selling Price of the Offer:

| | |
|--|-------------------------|
| Particulars | Amount (Rs.) |
| Variable Cost of order (4,000 Units/Pieces × Rs. 11.836) | 47,344 |
| Add: Required Profit (Rs. 30,100 – Rs. 14,652) | <u>15,448</u> |
| ∴ Sales required (in Rs.) | <u>62,792</u> |
| ∴ Selling Price per Unit/Piece of the order = Rs. 62,792 / 4,000 Units/ Pieces | 15.698 say Rs. 15.70 |

ALTERNATIVE ANSWER :6 (a)

Computation of Profit at present after increase in Cost

| | | |
|------|---|--------------|
| | Particulars | Amount (Rs.) |
| I | Net Profit per Piece | 1.80 |
| II | Total Pieces | 12,000 |
| III | Total Net Profit (I × II) | 21,600 |
| IV | Increased Direct Material Cost (Rs.4.25 × 4%) × 12,000 | 2,040 |
| V | Increased Direct Wages Cost (Rs.1.60 × 6%) × 12,000 | 1,152 |
| VI | Increased Works Overhead [(Rs.7.15 × 40%) × 12,000] × 10% | 3,432 |
| VII | Increased Sales Overhead [(Rs.0.90 × 30%) × 12,000] × 10% | 324 |
| VIII | Net Profit after increase in Cost {III – (IV + V + VI + VII)} | 14,652 |
| IX | Expected Net Profit | 30,100 |
| X | Net Profit required to be earned (IX – VIII) | 15,448 |

Computation of Selling Price of the Offer:

| | | | |
|-----|--|--------------|--------------------------------|
| | Particulars | Amount (Rs.) | Amount (Rs.) |
| I | Variable Cost: | | |
| | Material (4.25 × 104) / 100 | 4.420 | |
| | Wages (1.60 × 106) / 100 | 1.696 | |
| | Works Overheads (60% of Rs. 7.15) | 4.290 | |
| | Sales Overheads (70% of Re. 0.90) | 0.630 | |
| | Other Variable Cost | <u>0.800</u> | <u>11.836</u> |
| II | Profit Per Piece (Rs. 15,448 / 4,000 Pieces) | | <u>3.862</u> |
| III | Selling Price per Piece of the order (I + II) | | <u>15.698</u> Say Rs. 15.70 |

(b):

| | | |
|------------|------------------|-----------------|
| | Sales (Rs.) | Profit (Rs.) |
| Year 2017 | 12,00,000 | 80,000 |
| Year 2018 | <u>14,00,000</u> | <u>1,30,000</u> |
| Difference | 2,00,000 | 50,000 |

- (i) $P/V \text{ Ratio} = (\text{Difference in Profit} / \text{Difference in Sales}) \times 100$
 $\therefore P/V \text{ Ratio} = (\text{Rs. } 50,000 / 2,00,000) \times 100 = 25\%$

| | |
|--|---------------------|
| Contribution in 2017 (Rs. 12,00,000 × 25%) | Rs. 3,00,000 |
| Less: Profit | Rs. 80,000 |
| = Fixed Cost | <u>Rs. 2,20,000</u> |

ALTERNATIVELY

| | |
|--|---------------------|
| Contribution in 2018 (Rs. 14,00,000 × 25%) | Rs. 3,50,000 |
| Less: Profit | Rs. 1,30,000 |
| = Fixed Cost | <u>Rs. 2,20,000</u> |

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SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

(ii) Break Even Point = Fixed Cost / PV Ratio = Rs. 2,20,000 / 25% = Rs. 8,80,000

(iii) Profit when sales are Rs. 18,00,000

| | |
|------------------------------------|---------------------|
| Contribution (Rs. 18,00,000 × 25%) | Rs. 4,50,000 |
| Less: Fixed Cost | <u>Rs. 2,20,000</u> |
| Profit | <u>Rs. 2,30,000</u> |

(iv) Sales to earn a profit of Rs. 1,20,000
 = (Fixed Cost + desired Profit) / PV Ratio
 = (Rs. 2,20,000 + Rs. 1,20,000) / 25% Rs. 13,60,000

(v) Margin of Safety in 2018
 = Actual Sales – Break Even Point
 = Rs. 14,00,000 – Rs. 8,80,000 Rs. 5,20,000

7. (a) SUNRISE LTD, a manufacturing Company using Standard costing furnishes the following information:

The standard mix to produce one unit of product A is as under:

Material P 2 kg @ Rs. 20 per kg
 Material Q 3 kg @ Rs. 25 per kg
 Material R 4 kg @ Rs.15 per kg

During the month of March 2019, 20 units of product A were actually produced and consumption of material was as under:

Material P 35 kg @ Rs.22 per kg
 Material Q 60 kg @ Rs. 24 per kg
 Material R 90 kg @ Rs.16 per kg

Required:

Calculate the following Material Variances:

8

- (i) Material Cost Variance
- (ii) Material Price Variance
- (iii) Material Quantity Variance
- (iv) Material Mix Variance
- (v) Material Yield Variance

(Calculate upto 2 decimal points.)

(b) The monthly (September 2019) budgets for Production overhead Costs of TANISHA LTD for two levels of Activity were as follows:

| Particulars | Capacity Level | |
|-----------------------------|----------------|------------|
| | 60% | 100% |
| Budgeted Production (Units) | 15000 | 25000 |
| | Rs. | Rs. |
| Wages | 60,000 | 1,00,000 |
| Consumable Stores | 45,000 | 75,000 |

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

| | | |
|----------------|----------|----------|
| Maintenance | 55,000 | 75,000 |
| Power and Fuel | 80,000 | 1,00,000 |
| Depreciation | 2,00,000 | 2,00,000 |
| Insurance | 50,000 | 50,000 |
| | 4,90,000 | 6,00,000 |

Required:

- (i) Prepare Production overhead Costs Budget of 80% and 90% Capacity level for September, 2019 and
- (ii) Compute the total Cost, both fixed and variable overheads per unit of output at 80% and 90% Capacity level.

7

Answer:

7 (a):

Statement showing Standard and Actual Material Cost:

| Standard for 20 Units | | | | Actual for 20 Units | | |
|-----------------------|--------------|------------|--------------|---------------------|------------|--------------|
| Material | Qty. (Units) | Rate (Rs.) | Amount (Rs.) | Qty. (Units) | Rate (Rs.) | Amount (Rs.) |
| P | 40 | 20 | 800 | 35 | 22 | 770 |
| Q | 60 | 25 | 1,500 | 60 | 24 | 1,440 |
| R | 80 | 15 | 1,200 | 90 | 16 | 1,440 |
| Total | 180 | | 3,500 | 185 | | 3,650 |

- (i) Material Cost Variance
 = Standard Cost (SC) – Actual Cost (AC)
 = Rs. 3,500 – Rs. 3,650 = Rs. 150 (A)

- (ii) Material Price Variance
 = Actual Quantity [Standard Price (SP) – Actual Price (AP)]
 Material P = 35 (Rs.20 – Rs. 22) = Rs. 70 (A)
 Material Q = 60 (Rs. 25 – Rs.24) = Rs. 60 (F)
 Material R = 90 (Rs.15 – Rs.16) =Rs. 90 (A)
= Rs. 100 (A)

- (iii) Material Quantity (Usage) Variance
 = SP (SQ – AQ) where Q = Quantity
 Material P = 20 (Rs.40 – Rs. 35) = Rs. 100 (F)
 Material Q = 25 (Rs. 60 – Rs.60) = Nil
 Material R = 15 (Rs.80 – Rs.90) =Rs. 150 (A)
= Rs. 50 (A) 1

- (iv) Material Mix Variance
 = SP (Revised SQ- AQ)
 Material P = 20 (kgs.41.11 – Rs. 35) = Rs. 122.20 (F)
 Material Q = 25 (kgs. 61.67 – Rs.60) = Rs. 41.75 (F)
 Material R = 15 (kgs.82.22 – Rs.90) =Rs. 116.70 (A)
= Rs. 47.25 (F) 1

Note: Revised Standard Quantity (RSQ) is calculated as follows:

$$\text{Material P} = (185/180) \times 40 = 41.11 \text{ kgs.}$$

$$\text{Material Q} = (185/180) \times 60 = 61.67 \text{ kgs.}$$

$$\text{Material R} = (185/180) \times 80 = 82.22 \text{ kgs.}$$

- (v) Material Yield Variance
 = Standard Cost (Yield Price)per Unit (Actual Yield – Standard Yield)
 = Rs. 175 (20 Units– 20.56 Units) = Rs.98 (A)

Note:

(a) Standard Material Cost (Yield Price) per Unit of output

$$= \text{Rs. } 3,500 / 20 = \text{Rs. } 175$$

(b) Standard Yield = Actual Usage of Material / Standard Usage per Unit of output

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

$$= 185 / 9 = 20.56 \text{ Units}$$

(b):

**Production Overhead Costs Budget:
(For September 2019)**

| Particulars | Capacity level | | | |
|------------------------------|-----------------|--------------|-----------------|--------------|
| | 80% | | 90% | |
| Production (Units)' | 20,000 | | 22,500 | |
| | Rs. | Per Unit Rs. | Rs. | Per Unit Rs. |
| Variable Overhead Costs: [A] | | | | |
| Wages @ Rs. 4 | 80,000 | | 90,000 | |
| Consumable Stores @ Rs. 3 | 60,000 | | 67,500 | |
| Maintenance @ Rs. 2 | 40,000 | | 45,000 | |
| Power and Fuel @ Rs. 2 | 40,000 | | 45,000 | |
| Total [A] | <u>2,20,000</u> | <u>11.00</u> | <u>2,47,500</u> | <u>11.00</u> |
| Fixed Overhead Costs: [B] | | | | |
| Maintenance | 25,000 | | 25,000 | |
| Power and Fuel | 50,000 | | 50,000 | |
| Depreciation | 2,00,000 | | 2,00,000 | |
| Insurance | 50,000 | | 50,000 | |
| Total [B] | <u>3,25,000</u> | <u>16.25</u> | <u>3,25,000</u> | <u>14.44</u> |
| Grand Total [A + B] | <u>5,45,000</u> | <u>27.25</u> | <u>5,72,500</u> | <u>25.44</u> |

Working Notes:

- (i) Maintenance Costs:
 Variable = (Rs. 75,000 – Rs. 55,000) / (25,000 Units – 15,000 Units) = Rs. 2
 Fixed = (Rs. 55,000) – (15,000 Units × Rs. 2) = Rs.25,000
- (ii) Power and Fuel:
 Variable = (Rs. 1,00,000 – Rs. 80,000) / (25,000 Units – 15,000 Units) = Rs.2
 Fixed = (Rs. 80,000) – (15,000 Units × Rs. 2) = Rs. 50,000

8. Answer any three out of the following four questions:

5×3=15

- (a) Explain the concept of Opportunity Cost and Imputed Cost with suitable examples.
- (b) State the limitations of Cost Accounting System.
- (c) Describe the main objectives of Material Control System.
- (d) Write a brief note on Principal Budget Factor.

Answer:

8. (a) **Opportunity Cost :**

Opportunity cost is the value of alternatives foregone by adopting a particular strategy or employing resources in specific manner. It is the return expected from an investment other than the present one. These refer to costs which result from the use or application of material, labour or other facilities in a particular manner which has been foregone due to not using the facilities in the manner originally planned. Resources (or input) like men, materials, plant and machinery, finance etc., when utilized in one particular way, yield a particular return (or output). If the same input is utilized in another way, yielding the same or a different return, the original return on the forsaken alternative that is no longer obtainable is the opportunity cost. For example, if fixed deposits in the bank are proposed to be withdrawn for financing project, the opportunity cost would be the

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

loss of interest on the deposits. Similarly, when a building leased out on rent to a party is got vacated for own purpose or avacant space is not leased out but used internally, say, for expansion of the production programme, the rent so foregone is the opportunity cost.

Imputed Cost:

Imputed cost is hypothetical or notional cost, not involving cash outlay and computed only for the purpose of decision-making. In this respect, imputed cost is similar to opportunity cost. Interest on funds generated internally, payment for which is not actually made is an example of imputed cost. When alternative capital investment projects are being considered out of which one or more are to be financed from internal funds, it is necessary to take into account the imputed interest on own funds before a decision is arrived at.

(b) Limitations of Cost Accounting System:

- (i) Like any other system of accounting, Cost Accountancy is not an exact science but an art which has been developed through theories and accounting practices based on reasoning and commonsense. Many of the theories cannot be proved nor can they be disproved. They grow up in course of time to become conventions and accepted principles of Cost Accounting.
- (ii) These principles are by no means static, they are changing from day to day and what is correct today may not hold true in the circumstances tomorrow.
- (iii) In cost accounting, no cost can be said to be exact as they incorporate a large number of conventions, estimations and flexible factors such as :-
 - (iiia) Classification of costs into its elements.
 - (iiib) Materials issue pricing based on average or standard costs.
 - (iiic) Apportionment of overhead expenses and their allocation to cost units/centres.
 - (iiid) Arbitrary allocation of joint costs.
 - (iiie) Division of overheads into fixed and variable.
- (iv) Cost Accounting lacks the uniform procedures and formats in preparing the cost information of a product/ service.
- (v) Keeping in view above limitations, all Cost Accounting results can be taken as mere estimates.

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(c) Objectives of Material Control System:

- (i) To make continuous availability of materials so that there may be uninterrupted flow of materials for production. Production may not be held up for want of materials.
- (ii) To purchase requisite quantity of materials to avoid locking up of working capital and to minimise risk of surplus and obsolete stores.
- (iii) To make purchase competitively and wisely at the most economical prices so that there may be reduction in cost of materials.
- (iv) To purchase proper quantity of materials to have minimum possible wastage of materials.
- (v) To serve as an information centre on the knowledge in respect of materials for prices, sources of supply, lead time, quality and specification.

(d) Principal Budget Factor:

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

Budgets cover all the functional areas of the organisation. For the effective implementation of the budgetary system, all the functional areas are to be considered which are interlinked. Because of these interlinks, certain factors have the ability to affect all other budgets. Such factor is known as principal budget factor.

Principal Budget Factor is the factor the extent of influence of which must first be assessed in order to ensure that the functional budgets are reasonably capable of fulfillment. A principal budget factor may be lack of demand, scarcity of raw material, non-availability of skilled labour, inadequate working capital etc. For example, the organisation has the capacity to produce 2,000 units per annum; but the production department is able to produce only 1,600 units due to non-availability of raw materials. In this case, non-availability of raw materials is the principal budget factor (limiting factor). If the sales manager estimates that he can sell only 1,400 units due to lack of demand, then lack of demand is the principal budget factor. This concept is also known as key factor or governing factor. This factor highlights the constraints within which the organization functions.