# Paper 8- Cost Accounting

**Paper 8 – Cost Accounting**

**Full Marks: 100** **Time allowed: 3 hours**

**Part-I**

**Answer Question Number 1. All parts of this question are compulsory.**

**1. Answer the following questions**

**(a) Choose the most appropriate alternative for the following (you may write only the Roman numeral and the alphabet chosen for your answer): [1x10=10]**

**(i) _____ is a segment of a business that is responsible for all the activitiesinvolved in the production and sales of products, systems and services.**

(a) Cost centre
**(b) Profit centre**
(c) Service cost centre
(d) Responsibility centre

**(ii) ___is the value of alternatives foregone by adopting a particularstrategy or employing resources in specific manner.**

(a) Relevant cost
**(b) Opportunity cost**
(c) Imputed cost
(d) Replacement cost

**(iii) ___is a quantitative record of receipts, issues and closing balance ofitems of stores.**

**(a) Bin Card**
(b) Stores ledger
(c) Stores Ledger
(d) None of the above

**(iv) The_____is an analytical method of stock control which aims atconcentrating efforts on those items where attention is needed most.**

**(a) ABC Analysis**
(b) VED Analysis
(c) JIT Analysis
(d) FSN Analysis

**(v) Idle time is _____**

(a) Time spent by workers in office
(b) Time spent by workers on their job
(c) Time spent by workers in factory
**(d) Time spent by workers off their work**

**(vi) ____ _____are those which vary in total direct proportion to the volume ofoutput. These costs per unit remain relatively constant with changes in production.**

(a) Fixed overhead
(b) Semi Variable overhead
**(c) Variable overhead**
(d) None of the above

**(vii) When the amount of overhead absorbed is less than the amount of overheadincurred, it is called**

(a) Over-absorption of overhead
**(b) Under-absorption of overhead**
(c) Proper absorption of overhead
(d) None of the above

**(viii) CAS 13 stands for**

(a) Interest and financing charges
(b) Employee Cost
(c) Joint Cost
**(d) Cost of Service cost centre**

**(ix) Which of the following items is not included in preparation of cost sheet?**

(a) Carriage inward
(b) Purchase returns
(c) Sales commission
**(d) Interest paid**

**(x) Cost Price is not fixed in case of**

**(a) Cost plus contracts**
(b) Escalation clause
(c) Deescalation clause
(d) All of the above

**(b) Match the statement in column I with the most appropriate statement in column II [5×1=5]**

| | Column I | | Column II |
|---|---|---|---|
| (i) | Primary packing Materials Consumed | A. | Total sales less BEP sales |
| (ii) | Direct Expenses | B. | Difference in Fixed Cost/ Difference in contribution per unit |
| (iii) | Indifference point (in units | C. | Treated as direct expenses |
| (iv) | Margin of safety | D. | CAS 10 |
| (v) | Abnormal loss is transferred to | E. | Costing Profit and loss account |

**Answer: 1 (b)**

| | | | | |
|---|---|---|---|---|
| (i)C | (ii)D | (iii)B | (iv)A | (v)E |

**(c) State whether the following statements are 'True' or 'False' [5×1=5]**

**(i) Closing stock of work-in-progress should be valued on the basis of Cost of Sales.**

**(ii) Cost Accounting Standard Board should have minimum three eminentpracticing members of the institute of Cost Accounts of India.**

**(iii) Cash discounts are generally included completely from the costs.**

**(iv) Finance cost is not Direct Expense.**

**(v) Slow moving materials have a high turnover ratio.**

**Answer: 1 (c)**

| | | | | |
|---|---|---|---|---|
| (i)False | (ii)False | (iii)False | (iv)True | (v)False |

**(d) Fill in the blanks: [5×1=5]**

**(i) Statement of cost per unit of equivalent production shows the per unit cost _____.**

**(ii) Goods Received Note is prepared by the_____.**

**(iii) _____cost are historical costs which are incurred in the past.**

**(iv) Marginal cost is the_____of sales over contribution**

**(v) Wages sheet is prepared by_____department.**

**Answer: 1 (d)**

(i) Element Wise

(ii) Receiving Department

(iii) Sunk

(iv) Excess

(v) Pay Roll Department

**Part-II**

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

**[5 ×15= 75]**

**2.(a) MVC Ltd. manufactures a special product, which requires 'ABB'. The followingparticulars were collected for the year 2021-22:**

| | | | |
|---|---|---|---|
| **(i)** | **Monthly demand of Zed** | **:** | **6,500 units** |
| **(ii)** | **Cost of placing an order** | **:** | **₹ 500** |
| **(iii)** | **Re-order period** | **:** | **5 to 8 weeks** |
| **(iv)** | **Cost per unit** | **:** | **₹ 50** |
| **(v)** | **Carrying cost % p.a.** | **:** | **10%** |
| **(vi)** | **Normal usage** | **:** | **500 units per week** |
| **(vii)** | **Minimum usage** | **:** | **250 units per week** |
| **(viii)** | **Maximum usage** | **:** | **750 units per week** |

**Required:**

**(i) Re-order quantity**

**(ii) Re-order level**

**(iii) Minimum stock level**

**(iv) Maximum stock level**

**(v) Average stock level [8]**

**(b) In a manufacturing concern ABC Ltd. the machine shop has 8 identical machines manned by 6 operators. The machines need an operator wholly warning on them. The total cost of the machines is ₹ 12,00,000. Followinginformation relates to a six monthly period ended 31st December, 2021:**

| | |
|---|---|
| • **Normal available hours per month** | **208** |
| • **Absenteeism (without pay) hours per month** | **18** |
| • **Leave(with pay)hours per month** | **20** |
| • **Normal idle time(unavoidable) hours per month** | **10** |
| • **Average rate of wages per day of 8 hours** | **₹ 200** |

| | |
|---|---|
| • **Production bonus** | **25 % on wages** |
| • **Power and fuel consumption** | **₹ 20,000** |
| • **Supervision & indirect labour** | **₹ 10,000** |
| • **Electricity** | **₹ 6,000** |
| **The following particulars are on yearly basis** | |
| • **Repairs and maintenance** | **5%of valueof machines** |
| • **Insurance** | **₹ 72,000** |
| • **Depreciation** | **10 % on original cost** |
| • **Other factory expenses** | **₹ 28,000** |
| • **Allocated general management expenses** | **₹ 85,000** |

**You are required to work out a comprehensive machine hour rate for themachine shop.** **[7]**

**Answer 2.(a)**

(i) Re-order quantity:

$$\sqrt{\frac{2\times A\times O}{C}} = \sqrt{\frac{2\times 6500\times 12\times 500}{50\times 10\%}} = 3,950 \text{ units}$$

(ii) Re-order level= Maximum re-order period × Maximum usage
= 8 weeks × 750
= 6,000 units

(iii) Minimum stock level = Re-order level – (Normal rate of consumption × Average time of inventory delivery i.e., lead time)
= 6000 – (500 × 6.5)
= 6000 – 3,250
= 2,750 units

(iv) Maximum stock level = Re-order level + Re-order quantity – (Minimum Consumption × Minimum re-order period)
= 6,000 + 3,950 – (250 × 5)
= 8,700 units

(v) Average stock level = (Minimum stock level + Maximum stock level) ÷ 2
= (2,750 + 8,700) ÷ 2
= 5,725 units

**Answer 2.(b)**

**Calculation of effective machine hours per month:**

| | | |
|---|---|---|
| Normal available hours per month | | 208 |
| Less: Absenteeism hours | 18 | |
| Leave | 20 | |
| Normal idle hours | 10 | 48 |
| Effective machine hours per month | | 160 |

**Computation of Machine hour rate for the machine shop:**

| | | |
|---|---|---|
| Wages payable for 6 months | [W.N. 1] | 1,71,000 |
| Production bonus | [ 25% of ₹ 1,71,000] | 42,750 |

| | | |
|---|---|---|
| Power & Fuel consumption | | 20,000 |
| Supervision & indirect labour | | 10,000 |
| Electricity | | 6,000 |
| Repairs & Maintenance | [ 5% of ₹ 12,00,000 ×6/12] | 30,000 |
| Insurance | [₹ 72,000 × 6/12] | 36,000 |
| Depreciation | [ 10% of 12,00,000×6/12] | 60,000 |
| Other factory expenses | [₹ 28,000 × 6/12] | 14,000 |
| Allocated general management expenses | [ ₹ 85,000 × 6/12] | 42,500 |
| Total overhead of machine shop | | 4,32,250 |
| **Machine hour rate** | [ ₹ 4,32,250 ÷ 5760 hours(W.N 2)] | ₹ 75.04 |

**Working Notes:**

1. Wages = [(208-18) × 6 ×6×₹ 200÷8]
   = [190 ×6×6×₹ 25]
   = ₹ 1,71,000
2. Total machine hours for 6 months
   For 6 operators = [effective machine hours×6×6]
   = [160 ×6×6]
   = 5760 hours

**3. (a) Write a short note on CAS-3** **[6]**

**(b) The following figures have been extracted from financial accounts of a manufacturingfirm for the first year of its operation.**

| | |
|---|---|
| **Direct material consumption** | **50,00,000** |
| **Direct wages** | **30,00,000** |
| **Factory OH** | **16,00,000** |
| **Administration OH** | **7,00,000** |
| **Selling and distribution OH** | **9,60,000** |
| **Bad debts** | **80,000** |
| **Preliminary expenses written off** | **40,000** |
| **Legal charges** | **10,000** |
| **Dividends received** | **1,00,000** |
| **Interest on deposit received** | **20,000** |
| **Sales (1,20,000 units)** | **1,20,00,000** |
| **Closing stock** | |
| **Finished stock – 4,000 units** | **3,20,000** |
| **Work-in-progress** | **2,40,000** |

**The cost accounts for the same period reveal that the direct material consumption was ₹56,00,000. Factory OH recovered at 20% on prime cost; Administration OH is recovered @ ₹ 6 per unit of production; Selling and Distribution OH are recovered at ₹ 8 per unit sold. Reconcile the profit as per Financial recordeds with that of cost records.** **[9]**

**Answer 3(a)**

**CAS-3: COST ACCOUNTING STANDARD ON "PRODUCTION AND OPERATION OVERHEADS"**

This standard deals with the principles and methods of determining the Production orOperation Overheads. This standard deals with the principles and methods of classification, measurement and assignment of Production or Operation Overheads, fordetermination of the cost of goods produced or services provided and for thepresentation and disclosure in cost statements.

**Objectives**

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the Production or Operation Overheads with reasonable accuracy.

**Scope**

This standard shall be applied to cost statements, which require classification,measurement, assignment, presentation and disclosure of Production or Operation Overheads including those requiring attestation.

**Disclosures**

The cost statements shall disclose the following:

1. The basis of assignment of Production or Operation Overheads to the cost objects.
2. Production or Operation Overheads incurred in foreign exchange.
3. Production or Operation Overheads relating to resources received from or supplied to related parties.
4. Any Subsidy, Grant, Incentive or any amount of similar nature received or receivable reduced from Production or Operation Overheads.
5. Credits or recoveries relating to the Production or Operation Overheads.
6. Any abnormal cost not forming part of the Production or Operation Overheads
7. Any unabsorbed Production or Operation Overheads.

**Answer 3(b)**

**Dr. Costing P & L Account Cr.**

| Particulars | Amount (₹) | Particulars | Amount (₹) |
|---|---|---|---|
| To Materials | 56,00,000 | By Sales | 1,20,00,000 |
| To Direct wages | 30,00,000 | | |
| To Prime cost | 86,00,000 | | |
| To Factory OH"s (20%) | 17,20,000 | | |
| | 1,03,20,000 | | |
| Less: Closing WIP | 2,40,000 | | |
| Factory Cost | 1,00,80,000 | | |
| To Admin. OH"s (1,24,000×6) | 7,44,000 | | |
| Cost of production | 1,08,24,000 | | |
| Less: Closing stock of FG (1,08,24,000×4000/1,24,000) | 3,49,161 | | |
| Cost of goods sold | 1,04,74,839 | | |
| To Selling overheads | 9,60,000 | | |
| To Profit | 5,65,161 | | |
| | 1,20,00,000 | | 1,20,00,000 |

**Dr. Financial Trading and P & L Account Cr.**

| Particulars | Amount (₹) | Particulars | Amount(₹) |
|---|---|---|---|
| To Materials A/c | 50,00,000 | By Dividend A/c | 1,00,000 |
| To Wages A/c | 30,00,000 | By Interest on deposit | 20,000 |
| To Factory OH A/c | 16,00,000 | By Sales A/c | 1,20,00,000 |
| To Admin. OH A/c | 7,00,000 | By Closing stock A/c | |
| To S & D OH A/c | 9,60,000 | Finished goods | 3,20,000 |
| To Bad debts A/c | 80,000 | WIP | 2,40,000 |
| To Preliminary expenses written Off | 40,000 | | |
| To Legal charges A/c | 10,000 | | |
| To Net profit | 12,90,000 | | |
| | 1,26,80,000 | | 1,26,80,000 |

**Statement of Reconciliation**

| Particulars | Amount (₹) | Amount (₹) |
|---|---|---|
| Profit as per financial Accounts | | 12,90,000 |
| Add : Over Valuation of Closing stock of Finished goods in cost Accounts | 29,161 | |
| Pure financial expenses not considered in Cost Accounts (80,000+40,000+10,000) | 1,30,000 | 1,59,161 |
| Less : Over recovery of material | 6,00,000 | |
| Over recovery of FOH | 1,20,000 | |
| Over recovery of AOH | 44,000 | |
| Financial incomes not considered in Cost Accounts | 1,20,000 | 8,84,000 |
| Profit as per Cost Accounts | | 5,65,161 |

**4.(a). In the current quarter, ABC company has undertaken two jobs. The data relating to thesejobs are as under:**

| | Job A | Job B |
|---|---|---|
| **Selling price** | **₹ 1,07,325** | **₹ 1,57,920** |
| **Profit as percentage on cost** | **8%** | **12%** |
| **Direct Materials** | **₹ 37,500** | **₹ 54,000** |
| **Direct wages** | **₹ 30,000** | **₹ 42,000** |

**It is the policy of the company to charge Factory overheads as percentage on direct wages and selling and administration overheads as percentage on Factory Cost.**

**The company has received a new order for manufacturing of a similar job. The estimate of direct materials and direct wages relating to the new order are ₹ 75,000 and ₹ 50,000 respectively. A profit of 20% on sales is required. You are required to compute:**

**(i) The rates of Factory overheads and selling and Administration overheads to be charged.**

**(ii) The selling price of the new order. [8]**

**4. (b) A product passes through three processes: A, B and C 10,000 units at a cost of ₹1.10 were issued to process L. The other direct Expenses were as follows:**

| | Process A (₹) | Process B (₹) | Process C (₹) |
|---|---|---|---|
| **Sundry materials** | **1,500** | **1,500** | **1,500** |
| **Direct Labour** | **4,500** | **8,000** | **6,500** |
| **Direct Expenses** | **1,000** | **1,000** | **1,503** |

**The wastage of process A was 5% and in process B 4%. The wastage of process A wassold at ₹0.25 per unit and that of B at ₹ 0.50 per unit and that C at ₹ 1.00 per unit. Theoverhead charges were 160% of direct labour. The final product was sold at ₹10 per unit fetching a profit of 25% on cost. Prepare process A/c and also find out percentage of wastage in Process C.** **[7]**

**Answer: 4(a)**

**Computation of Factory Overhead rates and Selling & Distribution Overhead rates:**

Let the Factory overhead rate be X and Selling and Distribution Overheads rates be Y

**Job Cost Sheet**

| Particulars | Job A (₹) | Job B (₹) |
|---|---|---|
| Direct Materials | 37,500 | 54,000 |
| Direct wages | 30,000 | 42,000 |
| Prime cost | 67,500 | 96,000 |
| Add: Factory overhead | 30,000X | 42,000X |
| Factory Cost | 67,500+30,000X | 96,000+42,000X |
| Add: Selling & Administrative expenses | (67,500+30,000X)Y | (96,000+42,000X)Y |
| Total Cost | (67,500+30,000X)(1+Y) | (96,000+42,000X)(1+Y) |
| Profit (% on cost) | 8% | 12% |
| Total Cost | [1,07,325/108×100] =99,375 | [1,57,920/112×100] =1,41,000 |

67,500+30,000X+67,500Y+30,000XY = ₹99,375

Or 30,000X+67,500Y+30,000XY = ₹31,875..... (i)

96,000+42,000X+96,000Y+42,000XY = ₹1,41,000

Or 42,000X+96,000Y+42,000XY = ₹45,000 ..... (ii)

Multiplying equation (i) by 4.2 & (ii) by 3 we get,
126,000X+2,83,500Y+126,000XY = ₹1,33,875… ..... (iii)

126,000X+2,88,000Y+126,000XY= ₹1,35,000… ..... (iv)

Solving equation (iii) & (iv), we get

4,500Y =1,125 Y =
1,125/4500

Y= 0.25 i.e., 25%

Substituting the value of Y in equation (i), we get
30,000X+67,500Y+30,000XY= ₹31,875

30,000X + 67,500×0.25 + 30,000 × X ×0.25 = ₹31,875

30,000X + 16,875 + 7,500X = ₹31,875

37,500X = 15,000

X = 0.4 i.e., 40%

Hence,

Factory Overhead rate on Direct Wages = 40%

Selling & Administration overhead rate on factory cost = 25%

**(ii) Computation of selling price of the new order:**

| Particulars | | Amount (₹) |
|---|---|---|
| Direct Materials | | 75,000 |
| Direct Wages | | 50,000 |
| Prime Cost | | 1,25,000 |
| Factory Overhead [40% of Direct wages] | [40% of 50,000] | 20,000 |
| Factory Cost | | 1,45,000 |
| Selling & Administration Overhead [25% of Factory cost] | [25% of 1,45,000] | 36,250 |
| Total Cost | | 1,81,250 |
| Add : Profit | [1,81,250/80×20] | 45,313 |
| Selling Price | | 2,26,563 |

**Answer 4(b)**

**Dr. Process A A/c Cr.**

| Particulars | Units | | (₹) | Particulars | units | | (₹) |
|---|---|---|---|---|---|---|---|
| To Cost of Basic Raw Material | 10,000 | 1.10 | 11,000 | By Normal loss | 500 | 0.25 | 125 |
| To Sundry Materials | | | 1,500 | By Process B A/c | 9,500 | 2.6395 | 25,075 |
| To Direct Labour | | | 4,500 | | | | |
| To Direct Expenses | | | 1,000 | | | | |
| To Overheads (160% ×4,500) | | | 7,200 | | | | |
| | 10,000 | | 25,200 | | 10,000 | | 25,200 |

**Dr. Process B A/c Cr.**

| Particulars | Units | | (₹) | Particulars | units | | (₹) |
|---|---|---|---|---|---|---|---|
| To Process A A/c | 9,500 | 2.6395 | 25,075 | By Normal loss | 380 | 0.50 | 190 |
| To Sundry Materials | | | 1,500 | By Process C A/c | 9,120 | 5.283 | 48,185 |
| To Direct Labour | | | 8,000 | | | | |
| To Direct Expenses | | | 1,000 | | | | |
| To Overheads(160% × 8,000) | | | 12,800 | | | | |
| | 9,500 | | 48,375 | | 9,500 | | 48,375 |

**Dr. Process C A/c Cr.**

| Particulars | units | | (₹) | Particulars | units | | (₹) |
|---|---|---|---|---|---|---|---|
| To Process B A/c | 9,120 | 5.283 | 48,185 | By Normal loss | X | 1.00 | X |
| To Sundry Materials | | | 1,500 | By Finished output A/c | 9,120-X | 8 | 68,088 - X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| To Direct Labour | | | 6,500 | | | | |
| To Direct Expenses | | | 1,503 | | | | |
| To Overheads(160% × 6,500) | | | 10,400 | | | | |
| | 9,120 | | 68,088 | | 9,120 | | 68,088 |

Selling Price per unit ₹ 10
Less: Profit ₹ 2
Cost per unit of F.G ₹ 8

Cost per unit of F.G = $\frac{\text{Total cost – Scrap Value of Normal loss}}{\text{Total units Input – units of Normal loss}}$

₹ 8 = $\frac{68,088 - X}{9,120-X}$

X = 696 units

% age of Normal loss in relation to input in Process N

= $\frac{696 \text{ units}}{9120 \text{ units}} \times 100$

= 7.63%

**Dr. Process C A/c Cr.**

| Particulars | units | | (₹) | Particulars | units | | (₹) |
|---|---|---|---|---|---|---|---|
| To Process B A/c | 9,120 | 5.283 | 48,185 | By Normal loss | 696 | 1.00 | 696 |
| To Sundry Materials | | | 1,500 | By Finished output A/c | 8,424 | 8 | 67,392 |
| To Direct Labour | | | 6,500 | | | | |
| To Direct Expenses | | | 1,503 | | | | |
| To Overheads(160% × 6,500) | | | 10,400 | | | | |
| | 9,120 | | 68,088 | | 9,120 | | 68,088 |

**5.(a) Mr. NI started transport business with a fleet of 10 taxis. The various expenses incurredby him are given below:**

**(a) Cost of each taxi ₹1,20,000**
**(b) Salary of office staff ₹ 6,500 p.m.**
**(c) Salary of garage staff ₹3,500 p.m.**
**(d) Rent of garage ₹ 10,000 p.m.**
**(e) Drivers salary per taxi ₹5,000 p.m.**
**(f) Road tax and repairs per taxi ₹30,000 p.a.**
**(g) Insurance premium @ 5% of cost p.a.**

**The life of a taxi is 3,00,000 Km. and at the end of which it is estimated to be sold at ₹ 30,000. A taxi runs on an average 5,000 km. per month of which 20% it runs empty. Petrolconsumption is 10 Km. per litre of petrol costing ₹70 per litre. Oil and other sundry expenses amount to ₹50 per 100 Km. Calculate the effective cost of running a taxi per Km.**

**Show the Cost & Profit breake up if the hire charge is ₹ 15/km [8]**

**5.(b) The following details are available from the books of accounts of a contractor withrespect to a particular construction work for the year ended 31st March, 2022:**

| | | (₹) |
|---|---|---|
| **Contract price** | | **91,00,000** |
| **Cash received from contracted (90% of work certified)** | | **71,91,000** |
| **Material sent to site** | | **35,82,600** |
| **Planning and estimation cost** | | **3,50,000** |
| **Direct wages paid** | | **32,62,700** |
| **Cost of plant installed at site** | | **8,00,000** |
| **Direct expenses** | | **1,68,000** |
| **Establishment expenses** | | **2,50,000** |
| **Material returned to store** | | **15,000** |
| **Head office expenses apportioned** | | **2,50,000** |
| **Cost of work uncertified** | | **3,17,000** |
| **On 31st March, 2019:** | | |
| **Material at site** | **85,000** | |
| **Accrued direct wages** | **77,300** | |
| **Accrued direct expenses** | **12,000** | |
| **Value of plant(as revalued)** | **7,16,000** | |

**Required:**

**(i) Prepare the Contract account for the year ended 31st March, 2022**

**(ii) Show the relevant Balance Sheet entries.** **[7]**

**Answer 5(a)**

**OPERATING COST SHEET**

| Particulars | Workings | Per month | Per Km (₹) |
|---|---|---|---|
| Fixed costs per taxi: | | | |
| 1. Salary of Office staff | [6,500 ÷ 10] | 650 | |
| 2. Salary of garage staff | [3,500 ÷ 10] | 350 | |
| 3. Garage rent | [10,000 ÷ 10] | 1,000 | |
| 4. Driver"s Salary | | 5,000 | |
| 5. Road tax and repairs | [30,000 ÷ 12] | 2,500 | |
| 6. Insurance | [ (5% on 1,20,000) ÷ 12] | 500 | |
| Fixed cost per taxi | | 10,000 | |
| Fixed cost per effective Km | [10,000 ÷ 4,000(W.N 1)] | | 2.50 |
| Variable costs: | | | |
| 1. Depreciation | (1,20,000- 30,000)/2,40,000[W.N 2] | | 0.375 |
| 2. Petrol per monthPer effective Km. | (70 × 5,000)/10 = ₹35,000<br>₹ 35,000 ÷ 4,000 Km | | 8.75 |
| 3. Oil and other sundries per month<br>Per effective Km. | [50 × 5,000/100] = ₹2,500<br>₹ 2,500 ÷ 4,000 Km | | 0.625 |
| Operating cost per effective Km. | | | 12.25 |

**Calculation of profit in First Year**

| Particulars | Amount (₹) |
|---|---|
| Hire Charges per Km. | 15.00 |
| Operating cost effective per Km | 12.25 |
| Profit per effective km | 2.75 |

Profit for one year (4,80,000 km[W.N 3] @ 2.75 per km) = ₹ 13,20,000

**Working Notes:**

1. Effective Km. per month = 5,000 – 20% = 4,000 km
2. Effective Km of life of a taxi = [3,00,000 – 20% of 3,00,000] = 2,40,000 km
3. Effective km for first year of operation for all the 10 taxis = 4,000 × 12 × 10 = 4,80,000 km

**Answer 5(b)**

**Contract Account for the year ended 31st March, 2022**

**Dr.** **Cr.**

| Particulars | | (₹) | Particulars | | (₹) |
|---|---|---|---|---|---|
| To Material sent to site | | 35,82,600 | By Materials returned | | 15,000 |
| To Direct wages: Paid | 32,62,700 | | By Materials at site | | 85,000 |
| Accrued | 77,300 | 33,40,000 | By Work-in-progress : | | |
| To Planning and estimation cost | | 3,50,000 | Cost of work uncertified | | 3,17,000 |
| To Direct expenses: Paid<br>Accrued | 1,68,000<br>12,000 | 1,80,000 | Value of work certified [71,91,000 × 100/90] | | 79,90,000 |
| To Depreciation onplant [ 8,00,000 – 7,16,000] | | 84,000 | | | |
| To Establishment expenses | | 2,50,000 | | | |
| To Head officeExpenses | | 2,50,000 | | | |
| To Notional Profit C/d | | 3,70,400 | | | |
| | | 84,07,000 | | | 84,07,000 |
| To P & L A/c | | 2,22,240 | By Notional Profit B/d | | 3,70,400 |
| To Reserve | | 1,48,160 | | | |
| | | 3,70,400 | | | 3,70,400 |

**Workings :**

$$\% \text{ of Completion} = \frac{\text{Work Certified}}{\text{Contract Price}} \times 100$$

$$= \frac{79,90,000}{91,00,000} \times 100 = 87.80\%$$

Since the completion of contract is greater than 50% but not greater than 90%, 2/3 rd of the Notional Profit in the ratio of Cash received to work certified will be transferred to profit &Loss A/c.

**Profit transferred to P & L A/c**

$$= \frac{2}{3} \times \text{profit} \times \frac{\text{Cash Received}}{\text{Work certified}}$$

$$= \frac{2}{3} \times 3,70,400 \times \frac{71,91,000}{79,90,000} = ₹2,22,240$$

**Extract of Balance sheet as on 31st March, 2019**

| Liabilities | Amount (₹) | Amount (₹) | Assets | Amount (₹) | Amount (₹) |
|---|---|---|---|---|---|
| P & L A/c | | 2,22,240 | **Work-in-progress:** | | |
| Accrued Wages | | 77,300 | Value of work certified | 79,90,000 | |
| Accrued Expenses | | 12,000 | Cost of work uncertified | 3,17,000 | |
| | | | | 83,07,000 | |
| | | | Reserved profit | (1,48,160) | |
| | | | | 81,58,840 | |

| | | | | | |
|---|---|---|---|---|---|
| | | | Cash received | (71,91,000) | 9,67,840 |
| | | | Material at site | | 85,000 |

**6.(a) A company budgets for a production of 2,00,000 units. The variable cost per unit is ₹13 and fixed cost is ₹2 per unit. The company fixes its selling price to fetch a profit of 20% on cost.**

**(a) What is the minimum units required for recovering the fixed cost?**

**(b) What is the ratio of cost to sales?**

**(c) If it reduces its selling price by 5%, how does the revised selling price affect the break- even point and the Profit-Volume ratio?**

**(d) If a profit increase of 10% is desired more than the budget, what should be the sale at the reduced prices? [8]**

**(b) A factory engaged in manufacturing plastic buckets is working at 40% capacity and produces 10,000 buckets per month. The present cost breakup for one bucket is as under:**

| | |
|---|---|
| **Materials** | **₹ 25** |
| **Labour** | **₹ 8** |
| **Overheads** | **₹ 10(50% fixed)** |

**The selling price is ₹50 per bucket. If it is decided to work the factory at 50% capacity, theselling price falls by 3%. At 80% capacity, the selling price falls by 5% accompanied by a similar fall in the price of materials.**

**You are required to prepare a statement showing the profits at 50% and 80% capacitiesand also determine the breakeven points at each of these production levels. [7]**

**Answer 6(a)**

| | |
|---|---|
| Budgeted production (in units) | 2,00,000 |
| Variable cost (per unit) | ₹ 13.00 |
| Fixed cost(per unit) | ₹ 2.00 |
| Selling price (W.N.1) | ₹ 18.00 |
| Contribution(per unit) | ₹ 5.00 |
| Total fixed cost (2,00,000 units × ₹ 2) | ₹ 4,00,000 |

a) Break-even point $= \frac{\text{Total fixed cost}}{\text{Contribution p.u}}$

$= \frac{4,00,000}{5.00}$

= 80,000 units

b) Profit-volume ratio $= \frac{\text{Contribution p.u}}{\text{Selling price p.u}} \times 100$

$= \frac{5.00}{18.00} \times 100$

= 27.78%

c) (i) Break-Even point under revised selling price (see W.N.2)

$= \frac{\text{Total fixed cost}}{\text{Contribution p.u}}$

$= \frac{4,00,000}{4.10}$

= 97,560.97 units or 97,561 units

(ii) Profit-Volume Ratio under revised selling price

$$= \frac{\text{Revised contribution p.u}}{\text{Revised selling price}} \times 100$$

$$= \frac{4.10}{17.10} \times 100 = 23.98\% \text{ or } 24\%$$

d) No. of units to be sold under desired profit:

$$= \frac{\text{Total Fixed Cost} + \text{Desired Profit}}{\text{Contribution p.u}}$$

$$= \frac{4,00,000 + 6,60,000}{4.10}$$

$$= 2,58,537 \text{ units}$$

**Working Notes:**

1. Total cost of producing a unit = ₹15.00
   Add: 20% of profit on ₹15 = 3.00
   Selling price per unit = ₹18.00
2. Revised selling price = (Original Selling price less by 5%)
   = (₹18.00 - ₹ 0.90)
   = ₹17.10
   Contribution per unit
   Under revised selling price = (₹17.10 - ₹ 13.00)
   = ₹4.10
3. Desired profit:
   Budgeted Profit (2,00,000 × 3) = ₹6, 00,000
   10% increase in profit = ₹ 60,000
   Desired profit ₹ 6,60,000

**Answer 6(b)**

**Statement showing the profit at various capacity levels**

| Particulars | 40% | 50% | 80% |
|---|---|---|---|
| Production & sales(units) | 10,000 | 12,500 | 20,000 |
| Selling price (₹) | 50.00 | 48.50 | 47.50 |
| Sales [a] | 5,00,000 | 6,06,250 | 9,50,000 |
| Variable cost: | | | |
| Materials @ ₹ 25 | 2,50,000 | 3,12,500 | 5,00,000 |
| Labour @ ₹ 8 | 80,000 | 1,00,000 | 1,60,000 |
| Variable overheads @ ₹5 [₹ 10 × 50/100] | 50,000 | 62,500 | 1,00,000 |
| Total [b] | 3,80,000 | 4,75,000 | 7,60,000 |
| Contribution [a-b] | 1,20,000 | 1,31,250 | 1,90,000 |
| Less: Fixed overheads @ ₹5 [₹ 10 × 50/100] | 50,000 | 50,000 | 50,000 |
| Profit | 70,000 | 81,250 | 1,40,000 |
| Contribution per unit | = 1,20,000 / 10,000 =12.00 | = 1,31,250 / 12,500 =10.50 | = 1,90,000 / 20,000 =9.50 |
| Break-even point [Fixed OH/Contribution p.u] | 4,167 | 4,762 | 5,263 |

**7.(a) The Standard labour complement and the actual labour complement engaged in a weekfor a job are as under:**

| | Skilled workers | Semiskilled workers | Unskilled workers |
|---|---|---|---|
| a) Standard no. of workers in the gang | 32 | 12 | 6 |
| b) Standard wage rate per hour (₹) | 3 | 2 | 1 |
| c) Actual no. of workers employed in the gang during the week | 28 | 18 | 4 |
| d) Actual wage rate per hour (₹) | 4 | 3 | 2 |

**During the 40 hour working week the gang produced 1,800 standard labour hours of work.Show that the labour cost variance is equivalent to the total of labour rate variance, labourefficiency variance, [8]**

**(b) Prepare Sales Overhead Budget for the month of April, May June for theestimates given below:**

| | (₹) |
|---|---|
| Advertisement | 3,000 |
| Salaries of the Sales Department | 4,000 |
| Expenses of the Sales Department | 2,000 |
| Counter Salesmen"s Salaries and Dearness Allowance | 6,000 |

**Counter Salesmen"s commission is 2% on their sales.**

**Travelling Salesmen"s commission at 10% on their sales and expenses at 5% on their sales.The sales during the period were estimated as follows:**

| Month | Counter Sales (₹) | Travelling Salesmen's Sales (₹) |
|---|---|---|
| April | 1,00,000 | 20,000 |
| May | 1,50,000 | 30,000 |
| June | 1,75,000 | 40,000 |

**Answer 7(a)** **[7]**

**Analysis of Given Data**

**Amount (₹)**

| Standard Data | | | | Actual Data | | | |
|---|---|---|---|---|---|---|---|
| | Hours | Rate | Value (₹) | | Hours | Rate | Value (₹) |
| Skilled | 32×40=1,280 | 3 | 3,840 | Skilled | 28×40=1,120 | 4 | 4,480 |
| Semi-skilled | 12×40= 480 | 2 | 960 | Semi-skilled | 18×40= 720 | 3 | 2,160 |
| Unskilled | 6×40= 240 | 1 | 240 | Unskilled | 4×40= 160 | 2 | 320 |
| | 2,000 | | 5,040 | | 2000 | | 6,960 |

**Computation of Required Values**

**Amount (₹)**

| | SRSH(1) | SRRSH(2) | SRAH(3) | ARAH(4) |
|---|---|---|---|---|
| Men | 3×1,152=3,456 | 3,840 | 3×1,120=3,360 | 4,480 |
| Women | 2×432 = 864 | 960 | 2×720=1,440 | 2,160 |
| Boys | 1×216 = 216 | 240 | 1×160= 160 | 320 |
| | 4,536 | 5,040 | 4,960 | 6,960 |

**Computation of SH**

$$SH = \left(\frac{\text{SH for that worker}}{\text{SH for all the worker}}\right) \times \text{AQ for that worker}$$

For Skilled Worker $= \left(\frac{1,280}{2,000}\right) \times 1,800 = 1,152$

For Semiskilled worker $= \left(\frac{480}{2,000}\right) \times 1,800 = 432$

For Unskilled worker $= \left(\frac{240}{2,000}\right) \times 1,800 = 216$

Where (1) SRSH = Standard Cost of Standard Labour = ₹4,536
(2) SRRSH = Revised Standard Cost of Labour = ₹5,040
(3) SRAH = Standard Cost of Actual Labour = ₹4,960
(4) ARAH = Actual Cost of Labour = ₹6,960

**Computation of Labour Variances:**

a. Labour Sub-Efficiency Variance = (1) – (2) = ₹504 (A) [₹(4,536 – 5,040)]

b. Labour Mix or Gang Variance = (2) – (3) = ₹80 (F) [₹(5,040 – 4,960)]

c. Labour Efficiency Variance = (1) – (3) = ₹424 (A) [₹(4,536 – 4,960)]

d. Labour Rate Variance = (3) – (4) =₹ 2,000 (A) [₹(4,960 – 6,960)]

e. Labour Cost Variance = (1) – (4) = ₹2,424 (A) [₹(4,536 – 6,960)]

**Answer 7(b)**

**Sales Overhead Budget (For the month of January, February and March)**

| Particulars | January | February | March |
|---|---|---|---|
| **Variable Overheads:** | | | |
| Commission to counter salesmen @ 2% on their sales | 2,000 | 3,000 | 3,500 |
| Travelling salesmen"s commission @ 10% on their sales | 2,000 | 3,000 | 4,000 |
| Travelling salesmen"s expenses @ 5% on their sales | 1,000 | 1,500 | 2,000 |
| Total variable overheads **[A]** | 5,000 | 7,500 | 9,500 |
| **Fixed Overheads** | | | |
| Advertisement | 3,000 | 3,000 | 3,000 |
| Salaries of Sales department | 4,000 | 4,000 | 4,000 |
| Expenses of Sales Department | 2,000 | 2,000 | 2,000 |
| Salaries to the counter salesmen | 6,000 | 6,000 | 6,000 |
| Total Fixed Overhead **[B]** | 15,000 | 15,000 | 15,000 |
| Total Sales overhead **[A]+[B]** | 20,000 | 22,500 | 24,500 |

**8. Short Note (any three)** **[3×5=15]**

**(a) List the differences between Cost Control and Cost Reduction**

**(b) Write any two factors to be considered in Production Budget?**

**(c) What is Just-In-Time (JIT) system? List out its main benefits.**

**(d) How would you classify costs based on behavior? Give an example to explain eachclass.**

**Answer 8.(a)**

Both Cost Control and Cost Reduction are efficient tools of management but their concepts and procedure are widely different. The differences are summarized below:

| Cost Control | Cost Reduction |
|---|---|
| • Cost Control represents efforts made towards achieving target or goal. | • Cost Reduction represents theachievement in reduction of cost. |
| • The process of Cost Control is to setup a target, ascertain the actual performance and compare it withthe target, investigate the variances, and take remedial measures. | • Cost Reduction is not concern with maintenance of performanceaccording to standard. |
| • Cost Control assumes the existence of standards or norms which are not challenged. | • Cost Reduction assumes the existence of concealed potentialsavings in standards or norms which are therefore subjected to a constant challenge with a view to improvement by bringing out savings. |
| • Cost Control is a preventive function.Costs are optimized before they areincurred. | • Cost Reduction is a corrective function. It operates even when an efficient cost control system exists. There is room for reduction in the achieved costs under controlled conditions. |
| • Cost Control lacks dynamicapproach. | • Cost Reduction is a continuousprocess of analysis by various methods of all the factors affecting costs, efforts and functions in an organization. The main stress is upon the why of a thing and the aim is to have continual economy in costs. |

**(b) Factors to be considered in Production Budget:**

Next to the sales budget, the main function of a business concern is the production andfor this, a budget is prepared simultaneously with the sales budget. It is the forecast ofproduction during the period for which the budget is prepared. It can also be prepared intwo parts viz., production volume budget for the physical units i.e., the number of units, thetonnes of production etc., and the cost of production or manufacture showing details ofall elements of the manufacture. While preparing the production budget, the following factors must be taken into consideration:-

(a) Production plan:-

Production planning is an important part of the preparation of the production budget. Optimum utilization of plant capacity is taken by eliminating or reducing thelimiting factors and thereby effective production planning is made.

(b) The capacity of the business concern:-

It is to be ensured that the capacity of the organization will coincide the budgeted production or not. For this purpose, plant utilization budget will also be necessary. Theproduction budget must be based on normal capacity likely to be achieved and it should not be too high or too low.

(c) Inventory Policy:-

While preparing the production budget it is also necessary to see to what extent materials are available for producing the budgeted production. For that purpose, apurchase budget or a purchase plan must also be studied. Similarly, on the other hand, it is also necessary to verify the extent to which the inventory of finished goods isto be carried.

(d) Sales budgets must also be considered before preparing production budget becauseit may so happen that the entire production of the concern may not be sold. In such a case the production budget must be in line with the sales budget.

(e) A plan of the sequence of operations of production for effective preparation of a production budget should always be there.

Last, but not the least, the policy of the management should also be considered before preparing the production budget.

**(c) Just-in-Time:**

Just in time (JIT) is a production strategy that strives to improve a business return on investment by reducing in-process inventory and associated carrying costs. Inventory is seen as incurring costs, or waste, instead of adding and storing value, contrary to traditional accounting. In short, the Just-in-Time inventory system focuses on "the right material, at the right time, at the right place, and in the exact amount" without the safety net of inventory.

The advantages of Just-in-Time system are as follows:-

(a) Increased emphasis on supplier relationships. A company without inventory does not want a supply system problem that creates a part shortage. This makes supplier relationships extremely important.

(b) Supplies come in at regular intervals throughout the production day. Supply is synchronized with production demand and the optimal amount of inventory is on hand at any time. When parts move directly from the truck to the point of assembly, the need for storage facilities is reduced.

(c) Reduces the working capital requirements, as very little inventory is maintained.

(d) Minimizes storage space.

(e) Reduces the chance of inventory obsolescence or damage.

**(d) Classification based on Behaviour – Fixed, Semi-variable or Variable**

Costs are classified based on behaviour as fixed cost, variable cost and semi-variable cost depending upon response to the changes in the activity levels.

**Fixed Cost:**

Fixed cost is the cost which does not vary with the change in the volume of activity in the short run. These costs are not affected by temporary fluctuation in activity of an enterprise. These are also known as period costs. Example: Rent, Depreciation...etc.

**Variable Cost:**

Variable cost is the cost of elements which tends to directly vary with the volume of activity. Variable cost has two parts (i) Variable direct cost (ii) Variable indirect costs. Variable indirect costs are termed as variable overheads. Example: Direct labour, Outward Freight...etc.

**Semi-Variable Costs:**

Semi variable costs contain both fixed and variable elements. They are partly affected by fluctuation in the level of activity. These are partly fixed and partly variable costs and vice versa. Example: Factory supervision, Maintenance...etc