Valuation of Materials Issue

1. Prepare stores ledger under FIFO, LIFO, Weighted Average and Simple Average Method to the following:

|  |  |  |
| --- | --- | --- |
| Date | Transactions | Units and amount |
| 1/1/2021 | Opening stock | 200 units@Rs.3 |
| 2/1/2021 | Materials purchased | 300 units@Rs4 |
| 3/1/2021 | Materials issued | 250 units |
| 4/1/2021 | Materials purchased | 100 units@SRs2 |
| 5/1/2021 | Materials issued | 50 units |
| 6/1/2021 | Materials purchased | 300 units@Rs3 |
| 7/1/2021 | Materials issued | 200 units |

2. Prepare stores ledger under FIFO, LIFO, Weighted Average and Simple Average Method to the following:

|  |  |  |
| --- | --- | --- |
| Date | Transactions | Units and amount |
| 1/1/2021 | Purchases | 4,000 units @Rs.4 |
| 2/1/2021 | Purchases | 500 units@Rs.5 |
| 3/1/2021 | Issue | 2,000 units |
| 4/1/2021 | Purchases | 6,000 [units@Rs.6](mailto:units@Rs.6) |
| 5/1/2021 | Issue | 4,000 units |
| 6/1/2021 | Issue | 1,000 units |
| 7/1/2021 | Issue | 2,000 units |
| 8/1/2021 | purchase | 4,500 units@Rs.5.50 |
| 9/1/2021 | Issue | 3,000 units |

3. Prepare stores ledger under FIFO, LIFO, Weighted Average and Simple Average Method to the following:

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Particulars | Units | Price |
| 1/1/2021 | Balance | 400 | 2.50 |
| 2/1/2021 | Purchases | 275 | 2.70 |
| 3/1/2021 | Issue | 200 |  |
| 4/1/2021 | Purchases | 275 | 2.80 |
| 5/1/2021 | Issue | 200 |  |
| 6/1/2021 | Issue | 275 |  |
| 7/1/2021 | Purchase | 275 | 2.90 |
| 8/1/2021 | Goods lost | 50 |  |
| 9/1/2021 | Issued | 200 |  |

4. Prepare stores ledger under FIFO, LIFO, Weighted Average and Simple Average Method to the following:

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Particulars | Units | Price |
| 1/1/2021 | Opening balance | 300 | 20 |
| 2/1/2021 | Issued | 150 |  |
| 3/1/2021 | Issued | 100 |  |
| 4/1/2021 | Received | 200 | 19 |
| 5/1/2021 | Issued | 65 |  |
| 6/1/2021 | Received | 240 | 22 |
| 7/1/2021 | Transferred from Job-1 to Job-2 | 10 | 20 |
| 8/1/2021 | Returned to supplier out of the purchases of 6/1/2021 | 20 |  |
| 9/1/2021 | Purchased | 100 | 24 |
| 10/1/2021 | Issued | 180 |  |

5. Prepare stores ledger under FIFO, LIFO, Weighted Average and Simple Average Method to the following:

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Particulars | Units | Price |
| 1/1/2021 | Opening stock | 200 | 460 |
| 2/1/2021 | Issue | 140 |  |
| 3/1/2021 | Purchase | 350 | 450 |
| 4/1/2021 | Condemned | 30 |  |
| 5/1/2021 | Issued | 80 |  |
| 6/1/2021 | Issued | 210 |  |
| 7/1/2021 | Purchase | 200 | 480 |
| 8/1/2021 | Issued | 120 |  |
| 9/1/2021 | Purchased | 200 | 480 |
| 10/1/2021 | Issued | 200 |  |
| 11/1/2021 | Excess stock revealed | 10 |  |

1. Prepare stores ledger under FIFO, LIFO, Weighted Average and Simple Average Method to the following:

|  |  |  |
| --- | --- | --- |
| Date | Transactions | Units and amount |
| 1/1/2021 | Purchases | 400 kg @ Rs.2.10 per kg |
| 2/1/2021 | Issued | 600 kg |
| 3/1/2021 | Purchased | 800 kg@ Rs2.40 per kg |
| 4/1/2021 | Issued | 500 kg |
| 5/1/2021 | Purchased | 400 kg @2.50 |
| 6/1/2021 | Issued | 600 kg |

The stock on 1/1/2021 was 500 kg at Rs 2 per kg. There was return to stores on 7/1/2021 , 200 kg which was issued at Rs2 per kg. The stock verification on 8/1/2021 shows shortage of 10 kg.

**All the best**

**Material Control**

1. From the following calculate various stock levels:

Normal usage-75 units per week

Minimum usage-50 units per week

Maximum usage-100 units per week

Re-order Quantity- 450 units

Re-order period- 4-6 weeks

1. Two Components A and B is used as follows, calculate the various stock levels.

Normal usage-50 units per week

Minimum usage-25 units per week

Maximum usage-75 units per week

Re-order Quantity- For A-300 units and for B-500 units

Re-order period- For A- 4-6 weeks and for B-2-4 weeks.

1. The particulars of A and B materials are as follows.

Normal usage-15 units per week

Minimum usage-10 units per week

Maximum usage-20 units per week

Re-order Quantity- For A-80 units and for B-120units

Re-order period- For A-2-4 weeks and for B-3-5 weeks

Calculate various stock levels.

1. Two Components X and Y are used as follows

Normal usage-600 units

Maximum usage-900 units

Minimum usage-300 units

ROQ- for X-4,800 units and for Y-7,200 units

ROP- For X-4-6 weeks and for Y-2-4 weeks

Calculate various stock levels.

1. Three components X, Y and Z used as follows:

Minimum usage-50 units, maximum usage-150 units and normal usage-100 units

|  |  |  |  |
| --- | --- | --- | --- |
| Particulars | X | Y | Z |
| ROQ | 600 | 1000 | 800 |
| Delivery period | 4-6 weeks | 2-4 weeks | 3-5 weeks |

Calculate various stock levels.

1. Calculate Economic Order Quantity ( EOQ) and Number of orders from the following:

Annual Requirement -600 units, ordering cost per order-Rs.12

Annual Carrying cost-20% p.a, Price per unit-Rs.20

1. The following are the details of the two different materials:

|  |  |  |
| --- | --- | --- |
| Particulars | Material-A | Material-B |
| Annual demand | 2,000 units | 1,280 units |
| Ordering cost per order | Rss.1,200 | Rs.1,400 |
| Carrying cost per unit | Rs.480 | Rs.560 |

Calculate the following for two materials.

* EOQ
* Total Cost at EOQ
* Total Ordering Cost
* Total Carrying cost
* Number of Orders
* Gap between two consecutive orders.

1. A manufacturing company uses 50,000 units per year. The cost per unit is Re.1. Administrative cost per order is Rs.50 per order, carrying cost is 20% on average purchase price. The company currently has optimum purchase policy but has offered 4% discount if they purchase 5 times per year. Should the offer be accepted? If not what counter offer should be made?
2. Your factory buys and uses a component for production at Rs.10 per unit. Annual requirement is 2,000 units. Carrying cost is 10 p.a, ordering cost is Rs.40 per order. The purchase manger argues that as the ordering cost is very high, it is advantageous to place a single order for the entire requirement. He also says that if we order 2,000 units at a time we can get 3% discount from the supplier. Evaluate the proposal and make your recommendations.
3. A purchasing house purchases 2,000 units per year, unit cost is Rs.20 per unit, ordering cost Rs.50 per order, carrying cost is 25%

Calculate the

* EOQ.
* If 3% discount is offered by the supplier for the purchase of 1,000 or more units, should the offer accepted.
* Total carrying cost
* Total ordering cost
* Number of orders
* Number of time gap per order ( 365/EOQ)

1. A factory requires 1,500 units of an item per month. The costing of each unit is Rs27. The s. cost per order is Rs.150 and inventory carrying charges is 20% p.a. Find out EOQ and ascertain the number of orders to be placed per order. Would you accept a 2% price discount on a minimum supply of 1,200 units?
2. Your factory buys and uses a component for production at Rs10 per piece. Annual requirement is 20,000 units. The carrying cost of inventory is 10%% p.a and ordering cost is Rs40 per order. The purchase manager argues that as the ordering cost is very high, it is advantageous to place a single order for the entire annual requirements. He also says that if we order 20,000 units at a time we can get a 3% discount from the supplier. You are required to evaluate the proposal.

**Stores Control**

1. A lorry load of materials of mixed goods was purchased for Rs.1,00,000. Later on these were sorted out into the following categories :

|  |  |  |
| --- | --- | --- |
| Category -A | 1,000 units | Selling price Rs.20 per unit |
| Category -B | 2,000 units | Selling price Rs.22.50 per unit |
| Category -C | 2,400 units | Selling price Rs25 per unit |

1. Find the purchase rate per unit of each category of the material assuming that all the grades yield same rate of profit.

After inviting tenders, two quotations are received as under:

Supplier-X- Rs.2.20 per unit

Supplier-Y- Rs2.10 per unit plus Rs.2,000 fixed charges irrespective of units ordered.

Calculate the order quantity for which the purchase per unit will be the same. Considering all factors regarding production requirements and availability of finance. The purchase officer wants to place an order for 15,000 units .Which supplier should be selected?

1. A consignment consisting of four grades of materials was purchased for Rs.2,40,000. The storekeeper sorted them out and recorded the following:

|  |  |  |  |
| --- | --- | --- | --- |
| Grade A | 4,000 units | Grade C | 10,000 units |
| Grade B | 8,000 units | Grade D | 12,000 units |

The total sales of grade A amounted to Rs32,000, ( the rate of profit being 1/3rd of cost) and those of grade B at a price 1.5 times that of grade A ( but the rate of gross profit was 1/3rd of sales). Similarly, the grade C materials sold for Rs.1,00,000, yielding gross profit 20% on sales. Calculate purchase price per unit of each grade.

1. Following figures are taken from the records of a company for the year 2016. The valuation of inventory is Rs.2 per kg.

|  |  |  |  |
| --- | --- | --- | --- |
| Particulars | Opening stock (Kg) | Purchases (Kg) | Closing stock(Kg) |
| Material X | 1,400 | 23,000 | 400 |
| Material Y | 2,000 | 3,600 | 2,400 |

Calculate the Material Turnover Ratio of the materials and also determine which of the material is fast moving and slow moving.

**Best of Luck**

**Cost Sheet or Statement of Cost**

1. From the following prepare statement of cost for the period ending 31/12/2020.

|  |  |  |
| --- | --- | --- |
| Particulars | 1/1/2020 | 31/12/2020 |
| Stock of finished goods | 12,000 | 30,000 |
| Stock of raw materials | 80,000 | 1,00,000 |
| Work in progress | 30,000 | 20,000 |

Raw materials purchased- Rs.9,50,000, Carriage inward –Rs25,000, Wages-Rs 3,50,000, Work manager’s salary- Rs60,000, Factory employees salary-Rs, 1.20,000, Factory rent, tax and insurance –Rs14,000, Power expenses- Rs.19,000, Other production expenses Rs.85,000, General expenses- Rs.65,000, Sales- Rs17,20,000, Income Tax- Rs.5,500, Debenture interest- Rs-5,000, Good will- Rs.10,000.

**Ans-Profit- Rs.60,000/-**

1. From the following prepare statement of cost:

Work in progress ( 1/1/2020) at prime cost Rs75,000

Manufacturing expenses ( 1/1/2020) Rs25,000

Work in progress (31/12/2020) at prime cost Rs60,000

Manufacturing expenses (31/12/2020)- Rs12,000

Opening stock of raw material –Rs2,75,000

Purchase of raw material- Rs.5,27,000

Manufacturing expenses –Rs98,000

Direct labour- Rs2,25,000

Closing stock of raw materials- Rss2,64,000

**Ans- Rs.8,89,000**

1. From the following prepare statement of cost:

Raw materials – Rs.2,50,000, Direct labour- Rs3,50,000, Indirect labour- Rs75,000, Expenses on storage ( Factory)- Rs.20,000, Office expenses- Rs.75,000, Director’s fees- Rs.20,000, Managing director’s salary- Rs25,000, Selling expenses- Rs40,000, Miscellaneous expenses- Rs30,000, Depreciation on plant and machinery Rs50,000 and profit is 20% on Sales.

**Ans- Profit- Rs,2,33,750 and sales- 11,68,750.**

1. From the following prepare Statement of Cost.

|  |  |  |
| --- | --- | --- |
| Particulars | 1/1/2020 | 31/12/2020 |
| Stock of finished goods | 17,360 | 15,750 |
| Stock of raw materials | 25,000 | 26,250 |
| Work in progress | 8,220 | 9,100 |

Purchase of raw materials- Rs.21,900, Sales- 72,310, Direct wages-Rs17,150, Non-productive wages- Rs830, Works expenses- Rs8,340, Office expenses- Rs3,160, Selling expenses- Rs4,210.

**Ans-Profit- Rs.17,240**

1. Prepare cost sheet from the following:

Purchase of raw material- Rs6,000, Direct wages- Rs.5,000, Rent, rate and insurance- Rs.2,000, Carriage inward- Rs100, Opening stock of raw materials- Rs1,000, Closing stock of raw materials- Rs1,100, Opening stock of finished goods( 200 units)- Rs800, closing stock of finished goods- 400 units, Cost of factory supervision Rs400, Sales ( 3000 units)-Rs15,000, Advertising expenses per unit 0.40 paisa per unit.

**Ans-Rs.1,275 Profit**

1. Prepare statement of cost from the following:

Raw materials- Rss.15,000, Direct labour- Rs.9,000, Machine hours worked- 900 hours, Machine hour rate- Rs 5, Office Overhead- Rs20% of works cost, Selling overhead0 Re.0.50 per unit, units produced- Rs17,100, Units sold- 16,000 units of Rs4 per unit.

**Ans-Profit-Rs.24,000**

1. Prepare statement of cost

Opening stock of raw materials-Rs10,000, closing stock of raw materials- Rs.5,000, purchase of raw materials- Rs.10,000, Direct labour charges- Rs12,000, Machine hours worked- 1,000 hours, Machine hour rate Rs8 per hour, office overhead- 20% of works cost, selling overhead- 50 paise per unit sold, units produced- 14,000 units, units sold (13,500)- Rs4 per unit.

**Ans- Profit- 6,750**

1. Prepare statement of cost:

Direct labour cost Rs16,000 ( 160% of factory overhead)

Cost of goods sold- Rs.56,000

|  |  |  |
| --- | --- | --- |
| Particulars | 1/1/2020 | 31/12/2020 |
| Stock of finished goods | 14,000 | 18,000 |
| Stock of raw materials | 8,000 | 8,600 |
| Work in progress | 8,000 | 12,000 |

Selling expenses- Rs.3,400, General expenses- Rs.2,600, Sales- Rs.75,000

**Ans- Profit- Rs.15,600, Purchases- Rs 36,000**

1. Prepare statement of cost:

|  |  |  |
| --- | --- | --- |
| Particulars | 1/1/2020 | 31/12/2020 |
| Stock of finished goods | 1,00,000 | 1,50,000 |
| Stock of raw materials | 40,000 | 50,000 |
| Work in progress | 12,000 | 14,000 |

Indirect labour- Rs50,000, Lubricants- Rs10,000, Insurance on plant- Rs3,000, Purchase of raw materials- Rs4,00,000, Administrative expenses- Rs1,00,000, Power- Rs30,000, Sale of scrap- Rs2,000, Direct labour- Rs3,00,000, Sales commission – Rs60,000, Salary of sales man- Rs1,00,000, Carriage outward- Rs20,000, Depreciation- Rs50,000, Factory rent- Rs60,000, Property tax on factory building (F) –Rs11,000, Sales- Rs.12,00,000.

**Ans- Profit-Rs70,000.**

1. Prepare Statement of cost:

Sales- ( 80,000 units)- Rs,8,00,000,

|  |  |  |
| --- | --- | --- |
| Particulars | 1/1/2020 | 31/12/2020 |
| Stock of raw materials | 40,000 | 32,000 |
| Stock of finished goods | 64,000 (16,000 units) | ? (34,000 units) |
| Work in progress | 65,000 | 72,000 |

Materials purchased- Rs1,52,000,Direct labour- Rs1,45,000, Manufacturing overhead- Rs1,08,000, Selling overhead- Rs50,000, General expenses- Rs40,000

**Ans- Profit- Rs3,94,735 and Closing stock- Rs1,54,735.**

1. Prepare statement of cost:

|  |  |  |
| --- | --- | --- |
| Particulars | 1/1/2020 | 31/12/2020 |
| Stock of finished goods in units | 200 | 400 |
| Stock of raw materials | 3,000 | 4,500 |

Raw materials purchased Rs28,000, Depreciation on plant Rs1,500, Manufacturing wages Rs7,000, loss on sale of plant- Rs300, factory rent- Rs3,000, office rent- Rs500, General expenses- Rs400, Discount on sales- Rs300, advertisement- Rs600, Income tax- Rs2,000, Sales- Rs50,000

Number of units produced during the year- 3,000 units.

Value of finished goods (opening)- Rs2,800.

**Ans- Profit- Rs.12,887**.

1. Prepare statement of cost for two products:

|  |  |  |
| --- | --- | --- |
| Particulars | A | B |
| Materials | 27,300 | 1,08,680 |
| Labour | 15,600 | 62,920 |
| Number of units sold | 78 | 286 |
| Sales price per unit | Rs1,000 | Rs1,000 |
| Works overhead | 80% of labour | |
| Office overhead | 15% of works cost | |

**Ans- Profit for A- Rs14,313, For B- Rs30,774**

**Tender or Quotation Sheet**

1. The following figures related to manufacture of 3,000 electric fans, for three months ending 31/12/2020

|  |  |  |
| --- | --- | --- |
| Particulars | Opening stock | Closing stock |
| Finished goods | Nil | 20,250 |
| Stock of raw materials | 5,000 | 3,500 |
| Factory wages | Rs.75,000 | |
| Indirect wages | Rs12,500 | |
| Materials purchased | Rs.32,500 | |
| Profit on sales | 10% | |

Prepare a statement showing the cost per fan and the price to be quoted for 100 fans to realize the same percentage of profits as was realized during the said period, assuming the same conditions.

**Ans- Rs11,250 and Rs450**

1. Prepare a statement of cost from the following particulars of production of 1,500 units:

Cost of materials- Rs1,20,000, Salaries (fixed)- Rs90,000, Wages- Rs1,80,000, Factory expenses Rs75,000, Rent, rate and insurance- Rs15,000, Selling expenses- Rs45,000, General expenses ( fixed)- Rs30,000, Sales- Rs6,00,000.

The sales manager of the company estimates the sales during next year will be 2,000 units. Prepare a statement showing the estimate cost for 2,000 units and the sales price per unit to earn 20% profit on selling price. The following changes have been expected.

Rise in price of raw materials by 20%.

Wages will up by 5%

Office expenses will remain same and other factory and selling expense will change proportionately.

**Ans- Profit- Rs.45,000, Rs.1,86,000.**

1. The following figures related to costing of Tarpulin manufactured in respect of a certain type of sheet for a period of three months:

|  |  |  |
| --- | --- | --- |
| Particulars | Opening stock | Closing stock |
| Finished goods | Nil | 29,000 |
| Stock of raw materials | 5,500 | 3,500 |
| Factory wages | Rs.83,000 | |
| Indirect wages | Rs13,000 | |
| Materials purchased | Rs.61,500 | |
| Sales | Rs.141,500 | |

The number of sheets manufactured during three months was 2,200 and the price is to be quoted for 648 sheets, in order to realise the same percentage of profits as for the period under review, assuming no alteration in rates of wages and cost of materials.

Prepare a statement of cost for the manufacture of 2,200 sheets and quotation for 648 sheets.

**Ans- Profit-Rs.11,000 and Rs3,960**

1. The following are the costing records for the year 2020 of a manufacturing company:

Production 1,000 units

Cost of raw materials Rs20,000.

Labour cost- Rs12,000

Factory overhead- Rs.8,000

Office overhead- Rs4,000

Selling expenses- Rs1,000

Rate of profit 25% of the selling price

The manufacturer decides to produce 1,500 units during 2021. It is estimated that the cost of raw materials will increase by 20%, labour cost will increase by 10%, 50% of factory overhead charges are fixed and other 50% are variable. The selling expenses per unit will be reduced by 20%. The rate of profit will remain the same. Office overhead will remain same .

Prepare a cost statement for 2020 and 2021.

**Ans- Profit Rs23,667 ( 2021), Rs15,000 ( 2020)**

1. The company’s record shows the following particulars for the year 2020. Production and sales of 100 fans:

Direct materials- Rs25,000, Direct labour- Rs10,000, Direct charges- Rs1,000, works overhead- Rs.9,000, Office overhead- Rs5,000, Selling overhead- Rs5,000 and Profit- Rs11,000.

You ascertain that 80% of works overhead fluctuates directly with production and 70% of selling overhead fluctuates with sales. It is ascertained that the company would produce 500 fans for the year 2021 and the direct labour charges per unit will be reduced by 10%. While fixed works overheads charges will increase by Rs2,400 . Office overhead and fixed selling overhead charges are expected to show an increase of 10% and 20% respectively but otherwise no changes are anticipated.

Prepare statement of cost for the year 2020 and 2021

**Ans- Profit- Rs11,000 ( 2020), Rs51,400 ( 2021)**

1. From the following data prepare a cost sheet:

|  |  |  |
| --- | --- | --- |
| Particulars | Opening stock | Closing stock |
| Finished goods | 20,000 | 1,60,000 |
| Stock of raw materials | 1,40,000 | 19,600 |
| Factory wages | Rs.3,80,000 | |
| Administrative overhead | Rs40,000 | |
| Materials purchased | Rs.2,10,000 | |
| Factory expenses | Rs.70,000 | |
| Sales | Rs.7,56,000 | |

The number of units manufactured in 2020 was 4,000 including those sold and those in stock at the end.

What should be the price to be quoted for supply of 1,000 units in the year 2021 on the basis of the above figures and assuming that materials value and labour cost would increase by 15% and 10% respectively?

**Ans- Profit- Rs75,600 ( 2020), Profit- Rs.25,219 (2021)**

1. BCM Cold Ltd. Manufactured and sold 2,000 Refrigerators in the year ending 31/12/2020. The summarized trading and profit and loss account is given below:

|  |  |  |  |
| --- | --- | --- | --- |
| Particulars | Amount | Particulars | Amount |
| To cost of materials  To Direct wages  To Manufacturing cost  To salaries  To rent, rate  To Selling expenses  To General expenses  To Net profit | 1,00,000  2,40,000  1,00,000  1,20,000  20,000  60,000  40,000  60,000 | By sales | 8,00,000 |
|  | 8,00,000 |  | 8,00,000 |

For the year 2021 the company wants to produce 3,000 units. From the following particulars prepare a statement showing the price at which units would be marked so as to show a profit of 10% on selling price.

Price of materials will rise by 20%.

Wages will rise by 5%.

Manufacturing cost will rise in proportion to the combined cost of materials and wages.

Selling expenses per unit will remain unchanged.

Other expenses will remain unaffected by rise in output.

**Ans- Profit –Rs60,000 (2020), Rs1,22,500 (2021)**

1. The following expenses were incurred for a job during the year ending 31/12/2020.

Direct materials- Rs.5,000, Direct wages- Rs3,000, Chargeable expenses- Rs2,000, Factory overhead- Rs.3,000, Administrative overhead- Rs4,000 and Selling overhead Rs3,000.

Selling price of the above job was Rs25,000. You are required to prepare statement showing the profit earned during the year 2020 and estimated price of job which is to be executed in 2021. Materials, wages and chargeable expenses will be Rs.8,000, Rs10,000 and Rs2,000 respectively. The overheads are recovered as below:

Factory overhead as a percentage of direct wages

Administrative overhead and selling overhead as percentage of factory cost.

**Ans- Profit for 2020-Rs.5,000 and for 2021-12,071.**

Remuneration and Incentives

1. Calculate the earnings of a worker from the following information:

A. Time rate method

B. Piece rate method

C. Halsey Plan and

D. Rowan Plan

Standard time allowed is 30 hours, Time taken- 20 hours

Hourly rate is Re 1 per hour plus dearness allowance@50 paisa per hour worked.

**Ans- A- Rs.30, B- Rs.40, C- Rs.35, D-Rs36.67**

1. Calculate the earnings of worker under

A.Rowan Premium Bonus System

B. Halsey Weir Premium Bonus System ( 40% bonus to worker) from the following:

Hourly rate (guaranteed) – 0.75 per hour

Standard time for producing 1 dozen of article in 3 hours.

Actual time taken by the worker to produce 20 dozen articles is 48 hours

**Ans- A- Rs.43.20 and B- Rs.39.60**

1. In an engineering works, the standard time for a job is 16 hours and the basic wage is Re.1 per hour. A bonus scheme is instituted so that worker is to receive his normal rate for hours actually worked and 50% bonus for the time saved. Materials for the job cost Rs20 and overheads charged on a basis of Rs. 2 per labour hour.

Calculate the wages and effective rate of earnings per hour if the job is completed (A)- 12 hours and (B)- If completed in 14 hours. Also ascertain the factory cost of the job on the same basis.

**Ans- A- Rs14, Rs 1.167,B- Rs.15, Rs.1.071, Rs63.**

1. The standard hours of job X is 100 hours. The job has been completed by Virat in 60 hours, Aswin in 70 hours and Yuvraj in 95 hours.

The bonus system is applicable to the job is as follows:

|  |  |
| --- | --- |
| Percentage of time saved | Bonus |
| Saving up to 10% | 10% of time saved |
| From 11% to 20% | 15% of time saved |
| From 21%-40% | 20% of time saved |
| From 41% to 100% | 25% of time saved |

The rate of pay is Re.1 per hour. Calculate the total earnings of each worker and also the rate of earnings per hour.

**Ans:**

|  |  |  |  |
| --- | --- | --- | --- |
| Particulars | Virat | Aswin | Yuvraj |
| Total earnings | 68 | 76 | 95.50 |
| Earnings per hour | 1.13 | 1.09 | 1 |

1. Calculate the earnings of A and B under Straight Piece rate and Taylor’s differential piece rate system from the following:

Standard Production- 7 units per hour

Factory day- 8 hours

Normal time rate- Rs2.80 per hour

Differential piece rate: 80% of piece rate below standard and 120 of piece rate above standard.

A produces -50 units a day

B produces- 60 units a day

**Ans:**

|  |  |  |
| --- | --- | --- |
| Particulars | A | B |
| Earnings under straight piece rate | 20 | 24 |
| Earnings under differential piece rate | 16 | 28.80 |

1. In a manufacturing company a daily wage rate is guaranteed for a worker is Rs.1.87 and the standard output is fixed for the month is 1,000 units, representing 100 percent efficiency. The daily wage rate is paid without bonus to those workers who show up to 66. 67% efficiency standard. Beyond this there is bonus payable is a graded scale in a fixed ratio to the increased output as follows:

|  |  |
| --- | --- |
| Efficiency | Bonus payable |
| 90% | 10% |
| 100% | 20% |

Further increase of 1% for every 1 percent further rise in efficiency. Find out the total earnings of A, B, C and D who have worked for 26 days in a month. Worker’s output is A -500 units, B-900 units, C- 1,000 units and D- 1,100 units.

**Ans: A-Rs.48.62, B- Rs.53.48, C- Rs.58.34 and D- Rs63.21**

1. A worker takes 9 hours to complete a job on daily wage and 6 hours on a scheme of payment by results. His daily rate is 75 paise an hour: the material cost of the product is Rs.4 and the overheads are recovered at 150% of the total direct wages. Calculate the factory cost of the product under:
2. Piece work plan, B- Rowan Plan- C-Halsey plan.

**Ans- A- Rs.20.88, B- Rs-19 and C-18.07**

1. From the following data calculate the total monthly remuneration of three workers A, B and C.

Standard production per month per worker is 1,000 units

Actual production during the month- A- 850 units, B- 720 units and C-960 units.

Piece work rate -0.20 per piece

Dearness Wages- Rs50 per month (fixed), House Rent Allowance – Rs.20 per month (fixed), Time allowances- Rs.20 per month ( fixed)

Additional production bonus at the rate Rs.5 per each percentage of actual production exceeding 80% of the standard.

Ans- A-Rs.285, B-Rs.234 and C- Rs362

1. From the following particulars you are required to work out the earnings of a worker for a week under:

A. Straight piece rate,

B. Differential piece rate

C. Halsey premium plan

D. Rowan Premium plan

Weekly working hours- 48

Hourly wage rate- Rs.7.50

Piece rate per unit- Rs 3

Normal time taken per piece- 20 minutes

Normal output per week-120 pieces

Actual output per week- 150 pieces

Differential piece rate- 80% of piece rate below standard and 120% of piece rate above standard.

Ans- A –Rs.450, B-Rs.540, C- Rs.367.50 and D-374.40

1. From the following information given calculate the earnings of each employee, under Halsey-weir ( 30%) premium, Halsey premium and Rowan premium.

|  |  |  |  |
| --- | --- | --- | --- |
| Employee | A | B | C |
| Time allowed-hours for 100 units | 35 | 40 | 42 |
| Wage rate per unit | 4 | 2 | 3 |
| Hourly rate | 7 | 8 | 10 |
| Actual time taken in hours | 50 | 48 | 46 |
| Actual units produced | 200 | 150 | 125 |

**Ans**

|  |  |  |  |
| --- | --- | --- | --- |
| Particulars | A | B | C |
| Halsey-weir | 392 | 412.80 | 479.50 |
| Halsey | 420 | 432 | 492.50 |
| Rowan | 450 | 460.80 | 516.95 |

1. From the following data tabulate the total earnings per hour of each worker separately under :

Halsey and Rowan Scheme of incentive plan

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Workers | A | B | C | D | E | F |
| Time allowed | 3 | 4 | 5 | 6 | 7 | 8 |
| Time taken | 5 | 3 | 4 | 5 | 3 | 3 |
| Rate per hour | 2 | 2 | 2 | 2 | 2 | 2 |

**Ans**: Earning per hour

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Workers | A | B | C | D | E | F |
| Halsey | 2 | 2.33 | 2.25 | 2.20 | 3.33 | 3.67 |
| Rowan | 2 | 2.50 | 2.40 | 2.33 | 3.14 | 3.25 |

1. Calculate the earnings of workers A, B and C under straight piece rate and Merrick’s multiple piece rate system from the following:

Normal rate per hour-Rs 1.80

Standard time allowed per unit- 1 minute

Output per day is as follows:

A-384 units, B- 450 units and C- 552 units

Working hours per day- 8 hours.

1. The standard time allowed for the job is 30 hours. The hourly rate of guaranteed wages is Rs 1.50. Because of the saving in time, a worker X gets an hourly wage of Rs.1.80 under Rowan plan for the same saving in time. Calculate the hourly wage rate of a worker Y will get under Halsey plan.

Ans- Rs.1.69

**OVERHEADS**

1. Raj Co. Ltd has three production departments- A, B and C and two service departments –D and E. The following figures are extracted from the records of the company:

Rent and rates- Rs5,000, General lighting Rs600, Indirect wages Rs1,500, Power- Rs1,500, Depreciation on machinery – Rs10,000 and Sundries –Rs10,000.

The further details are as follows:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Particulars | Total | A | B | C | D | E |
| Floor space in sq.ft | 10,000 | 2,000 | 2,500 | 3,000 | 2,000 | 500 |
| Light points | 60 | 10 | 15 | 20 | 10 | 5 |
| Direct wages (Rs) | 10,000 | 3,000 | 2,000 | 3,000 | 1,500 | 500 |
| H.P of machine | 150 | 60 | 30 | 50 | 10 | - |
| Value of machine (Rs) | 2,50,000 | 60,000 | 80,000 | 1,00,000 | 5,000 | 5,000 |

Apportion the costs to various departments on the most equitable basis.

**Ans- Department overhead A- 7,550, B-7,200, C-9,650, D- 4,625 and E- 1,575**

1. Mohan Ltd. has four departments. The following are the expenses for a period of 3 months.

Rent-Rs1,000, Repairs- Rs600, Depreciation- Rs450, light- Rs100, supervision- Rs1,500, insurance on plant- Rs500, employee insurance- Rs150, Power- Rs900

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Department | A | B | C | D |
| Area in square ft. | 75 | 55 | 45 | 25 |
| Total wages in Rs | 4,000 | 3,000 | 2,000 | 1,000 |
| No of workers | 12 | 8 | 6 | 14 |
| Value of plant | 12,000 | 9,000 | 6,000 | 3,000 |

Write a statement showing the apportionment of cost of the various departments under the head Primary Departmental Distribution Summary.

**Ans- A- 5,200, B-1,483, C- 1,067 and D-597**

1. Chandra Ltd. provides you the following information for the year 31st December 2020.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Particulars | Production Dept | | | Service Dept. | |
| A | B | C | X | Y |
| Direct wages (Rs) | 30,000 | 45,000 | 60,000 | 15,000 | 30,000 |
| Direct materials ( Rs) | 15,000 | 30,000 | 30,000 | 22,500 | 22,500 |
| Staff number | 1,500 | 2,250 | 2,250 | 750 | 750 |
| Electricity ( Kwh) | 6,000 | 4,500 | 3,000 | 1,500 | 1,500 |
| Asset value ( Rs) | 60,000 | 40,000 | 30,000 | 10,000 | 10,000 |
| Light points | 10 | 16 | 4 | 6 | 4 |
| Area in sq. meter | 150 | 250 | 50 | 50 | 50 |

The expenses for the period were as follows:

Power-1,100, lighting -200, stores overhead- 800, welfare to staff- 3,000,

Depreciation- 30,000, repairs- 6,000, General overhead- 12,000, Rent and tax- 550.

Apportion the expenses of service department X according to direct wages and those of Y in the ratio of 5:3:2 to the production departments.

You are required to prepare overhead distribution summary.

1. 17,700, B-14,330, C-12570, X- 41,530, Y- 57,520
2. A company has three production department A, B and C and two service department P and Q. The expenses incurred by them during the month are:
3. Rs80,000, B- Rs70,000, C- Rs50,000, P- Rs23,400, Q –Rs30,000

The expenses of service departments are apportioned to the production department on the following basis:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dept. | A | B | C | P | Q |
| P | 20% | 40% | 30% | Nil | 10% |
| Q | 40% | 20% | 20% | 20% | Nil |

Prepare overhead distribution summary under

1. Repeated distribution method
2. Simultaneous equation method
3. A company has three production department A, B and C and two production department X and Y. The expenses incurred by them during the year as follows:

A-2,500, B- 3,100, C- 2,800, X- 800, Y-1,390

The costs of the service departments are to be distributed using the following bases of apportionment:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dept . | A | B | C | X | Y |
| X | 30% | 20% | 40% | Nil | 10% |
| Y | 40% | 15% | 25% | 20% | Nil |

Prepare overhead distribution summary under

1. Repeated distribution method
2. Simultaneous equation method
3. Following particulars relating to a manufacturing company which has three production departments P1, P2 and P3 and two service departments S1 and S2.

The expenses incurred by them during the year as follows:

P1-6,300, P2-7,400, P3- 2,800, S1- 4,500 and S2-2,000

The company decided to charge the service department cost on the basis of following percentages:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dept . | P1 | P2 | P3 | S1 | S2 |
| S1 | 40% | 30% | 20% | Nil | 10% |
| S2 | 30% | 30% | 20% | 20% | Nil |

Prepare overhead distribution summary under

1. Repeated distribution method
2. Simultaneous equation method
3. A company has three production departments and two service departments, and for a period the departmental distribution summary has the following totals:

P1- 800, P2- 700, P3-500, S1-234, S2-300

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dept . | P1 | P2 | P3 | S1 | S2 |
| S1 | 20% | 40% | 30% | Nil | 10% |
| S2 | 40% | 20% | 20% | 20% | Nil |

Prepare overhead distribution summary under

1. Repeated distribution method
2. Simultaneous equation method

**CONTRACT COSTING**

1 .A firm of building contractors undertook a contract. On 31.12.2016,the position pertaining to contract No 51 was as follows which commenced 10 months above:-

(i)Materials supplied Rs 3,75,000

(ii)Materials on hand Rs 15,000

(iii)Wages Rs 4,37,500

(iv)Wages outstanding Rs 6,250

(v)Proportionate share of indirect expenses Rs 18,750

(vi)Cost of Plant Rs 62,500

(vii)The value of work certified was Rs 9,00,000 of which Rs 6,75,000 had been received in cash

(viii)Work completed but uncertified amount to Rs 25,000

(ix)The contract price was Rs 15,00,000

(x)The plant on the site was valued at Rs 50,000 on 31.12.2016

You are required to prepare contract account no 51 after taking credit for profit which you think reasonable.

**Ans : Profit Rs 45,000**

2. On 1.4.2016 Modern Builders Ltd undertook a contract .The following was the expenditure on a contract of Rs 6,00,000.

Materials issued to contract Rs 1,02,000

Plant issued to contract Rs 30,000

Wages Rs 1,62,000

Other Expenses Rs 10,000

Cash received on account to 31.3.2017 amounted to Rs 2,56,000 being 80% of the work certified. Of the plant and materials charged to the contract , plant costing Rs 3,000 and materials costing Rs 5,000 were lost. On 31.3.2017 plant which costs Rs 2,000 was returned to the stores and the cost of work done but uncertified was Rs 2,000 and materials costing Rs 2,900 were in hand on site. Provide 15% depreciation on plant , reserve 1/3 of profit received and prepare contract account to the above particulars.

**Ans : Notional Profit : 26,400**

3. The following is the summary of the entries in a contract ledger as on 31.12.2016 in respect of contract No 60.Prepare the contract account

Materials bought directly Rs 45,000

Materials from stores Rs 7,000

Wages Rs 18,000

Direct Expenses Rs 7,000

Establishment Charges Rs 8,000

Plant Rs 34,200

Stores Sold Rs 1,820

Cost of sub contract Rs 7,500

you are further supplied with the following information :

(1)Accruals in 31.12.2016 are wages Rs 900 and direct expenses Rs 1,200

(2)Included in the above summary of entries are wages Rs 1,000 and other expenses Rs 1,500 since certification .The value of materials used since certification .The value of materials used since certification is Rs 2,200

(3)Depreciation till 31.12.2016 on plant is Rs 8,600

(4)Materials on hand on 31.12.2016 Rs 10,000

(5)The total contract price is Rs 1,00,000

(6)Rs 62500 had been certified up to 31.12.2016 when 5/8 of the contract had been completed.

**Ans: Loss Rs 24,180**

(4) Gina Engineering Co undertook a contract for constructing a Building at a contract price of Rs 2,00,000. Their accounts show the following position for the year ended 31.12.2016.

Materials Rs 40,000

Wages Rs 16,000

Wages to be paid Rs 2,000

Plant issued to the contract on 1.7.2016 for 6 months only Rs 80,000

Overhead charges Rs 4,000

Sub contract cost Rs 10,000

Materials at site at the end Rs 4,000

Progress money being 90% of work certified 1,08,000

work uncertified Rs 6,000

plant costing Rs 10000 was sold on 31.10.2016 for Rs 8,000

Charge depreciation on plant at 12% per annum

Cost of extra work done and completed on this contract (Not included in the original contract ) was Rs 9,000 and Rs 12,000 was agreed to pay separately for it. Prepare the contract account.

**Ans : Notional profit 53,400**

(5)Following expenses were incurred by a contractor on a contract which he started on 1 st January.

Materials Rs 40,000

Wages Rs 50,000

Other Expenses 15,000

Plant at Cost Rs 50,000

Work certified Rs 1,20,000

Work uncertified Rs 60,000

Materials on Hand (on 31st dec) Rs 11,000

Plant Value at Close Rs 43,000

Cash received from contractee Rs 1,00,000

Materials returned to store Rs 2,000

Prepare contract account and work in progress assuming that the contract price was Rs 3,50,000 .How will work in progress appear in the balance Sheet of the contractor.

**Ans: Notional Profit Rs 81,000 Profit & Loss a/c 22,500**

(6)The following was the expenditure on a contract for Rs 12,00,000 commenced in January.

Materials Rs 2,40,000

wages Rs 3,28,000

Plant Rs 40,000

overheads Rs 17,200

Cash received on account of the contract up to 31st dec was Rs 480000 being 80% of the work certified .The value of materials in hand was Rs 20,000.The plant had undergone 20% of depreciation .Prepare contract account.

**Ans: Notional profit Rs 26,800.Profit & Loss ac 14,293**

(7)A firm of builders ,carrying out large contracts kept in a contract ledger separated accounts for each contract .The following particulars relate to a certain contract carried out during the year ended 30 th jun2016

Work certified by Architects Rs 1,43,000

Cash received from the contractee - Rs 1,30,000

Materials sent to site Rs 64,500

Labour engaged on site Rs 54,800

Plant installed at site Rs 11,300

Value of plant at 30th jun (closing)Rs 8,200

Cost of work not yet certified Rs 3,400

Establishment charges Rs 3,250

Direct expenditure Rs 2,400

Wages accrued due Rs 1,800

Materials closing balance Rs 1,400

Materials returned to store Rs 400

Direct expenses accrued due Rs 200

You are required to prepare an account showing the profit on the contract upto 30th june 2016.

**Ans : Notional profit Rs 18,150 Profit & loss ac Rs 11,000**

(8)The following information relates to two contracts of BCM contractors in 2016:

Contract A Contract B

Materials sent to site Rs 1,70,698 Rs 1,46,534

Labour Rs 1,48,750 Rs 1,37,046

Plant Rs 30,000 Rs 25,000

Direct Expenses Rs 6,334 Rs 5,718

Establishment charges Rs 8,252 Rs 7,704

Materials returned to store Rs 1,098 Rs 1,264

Work certified Rs 3,90,000 Rs 2,90,000

Work uncertified Rs 9,000 Rs 6,000

material at site (31-12-2016) Rs 3,766 Rs 3,472

Wages accrued Rs 4,800 Rs 4,200

Direct expenses accrued(31-12-2016) Rs 480 Rs 360

Contract Price Rs.5,00,000 Rs4,00,000

Cash received being 80% of work certified.

Prepare (i)contract account(ii) Contractees account

(9)A company undertook a contract for construction of a large building complex. The construction work commenced on 1 st April 2016 and the following data are available for the year ended 31st march 2017(fig in 000)

Contract price Rs 35,000 Plant hire charges Rs 1,750

Work certified Rs 20,000 Wages related costs Rs 500

Progress payments received Rs 15,000 Site office costs Rs 678

Materials issued to site Rs 7,500 Head office expenses Apportioned Rs 375

Planning & Estimating costs Rs 1,000 Site expenses incurred Rs 902

Direct wages paid Rs 4,000 Work not certified Rs 149

Materials Returned from site Rs 250

The contractor own a plant which originally cost Rs 20 lacs has been continuously in use in this contract throughout the year. The residual value of the plant after 5 years of life is expected to be Rs 5 lacs .Straight line method of depreciation is in use. As on 31st march 2017 the direct wages due and payable amounted to Rs 2,70,000 and the materials at site were estimated at Rs 2,00,000.Prepare contract account for the year ended 31st march 2017 and show the calculation of profit to be taken to profit and loss account.

**Ans: Notional Profit Rs 3324**

(10) Construction ltd is engaged on two contracts A & B during the year. Following particulars are obtained at the yearend (Dec31)

Contract A Contract B

Date of Commencement April 1 September 1

Contract price Rs.6,00,000 Rs5,00,000

Materials issued 1,60,000 60,000

Materials returned 4,000 2,000

Materials at Site(Dec 31) 22,000 8,000

Direct labor 1,50,000 42,000

Site Expenses 66,000 35,000

Establishment expenses 25,000 7,000

Plant installed at site 80,000 70,000

Value of plant(Dec31) 65,000 64,000

cost of contract not yet certified 23,000 10,000

value of contract certified 4,20,000 1,35,000

Cash received from contractees 3,78,000 1,25,000

Architects fees 2,000 1,000

During the periods materials amounting to Rs 9000 have been transferred from contract A to contract B .You are required to show (a) Contract accounts(b) Contractees accounts and (c) Extract from balance sheet as on December 31 clearly showing the calculation of work in progress.

**Ans: Notional profit A Rs 60000 Notional loss B 5000**

(11) SV construction ltd has obtained a contract for the construction of a bridge .The value of the contract is Rs 12 lacs and the work commenced on 1 st October 2013 Following details are shown in their books for the year ended 30 th September 2014.Plant purchased Rs 60000,Wages paid Rs 340000 Materials issued to site Rs 336000,site expenses Rs 8000,General overhead apportioned Rs 32000 Wages accrued as on 30.09.2014 Rs 2800 Materials at site as on 30.09.2014 Rs 4000 Direct expenses accrued as on 30.09.2014 Rs 1200 work not yet certified at cost Rs 14000 cash received being 80% of work certified Rs 600000.Life of plant purchased is 5 years and scrap value is nil;. Prepare contract account for the year ended 30 th sept 2014 (2) show the amount of profit which you consider might be fairly taken on the contract and how you have calculated it.

**Ans " Notional profit Rs 36000 Profit transferred to pl ac Rs 19200**

(12)Following information relates to building contract for Rs 1000000 and for which 80% of the value of workin progress as certified by the architect is being paid by the contractee

2012 2013 2014

Rs Rs Rs

Materials issued 120000 145000 84000

Direct wages 110000 155000 110000

Site expenses 5000 17000 6000

Indirect exp 2000 2600 500

Work certified31st december 235000 750000 1000000

work done but not certified 2800 8000 nil

materials at site 2000 5000 8000

value of plant issued 14000 nil nil

The value of plant at the end of 2012,2013,and 2014 was Rs 11200 Rs 7000 and Rs 3000 respectively. prepare contract account for the three years taking into account such profit as you think proper on incomplete contract.

**Ans : 2012 NO profit,2013 - profit 106347,2014 - Rs 133553**

(13) m/s Promising company undertook a contract for erecting sewerage treatment plant for prosperous municipilaty for a total value of Rs 24 lacs .It was estimated that the job would be completed by 31 st jan 2014

You are asked to prepare the contract account for the year ending 31 st jan 2014 fron the following particulars

(i)Materials Rs 300000

(ii\_ Wages Rs 600000

(iii\_ Overhead charges Rs 120000

Special plant Rs 200000

(v) Work certified was for Rs 1600000 and 80% of the same was received in cash

(vi) Material lying at site as on 31.01.2014 Rs 40000

(vii) Depreciate plant by 10 %

(viii) 5 % of the valve of material issued and 6 % of wages may be taken to have been incurred for the portion of the work completed but not yet certified ,Overheads are charged as a percentage of direct wages

(ix)Ignore depreciation of plant for use on uncertified portion of work

(x) Ascertain the amount to be transferred to profit and loss ac on the basis of realized profit

**Ans : Notional profit Rs 658200 Profit transferred to pl ac Rs 351040 Work uncertified Rs 58200**

14. A contract account in the books of contractors ltd appears as follows Jun30 2014 material issued to site Rs 5000, plant issued to site Rs 12500 , Direct labor Rs 4600 ,Indirect labor Rs 640 Overhead expenses Rs 1950,You are informed that it is the practice of the firm to take credit for two thirds of the profit earned on the contracts in progress after taking into account the value of the work certified for payment by architects. You are required to(a) complete the contract account to jun 30(b) show the amount which you would transfer to profit and loss account along with necessary calculations(c) show relevant entries in the balance sheet as on 30 th jun.For this purpose you are supplied with the following further information as at that date: Value of work certified for payment Rs 10000 Value of plant at site after depreciation Rs 11875 Cost of work carried out but not certified Rs 3800 Cash received from the contractee Rs 9000, Stock of materials not used Rs 950

**Ans: Notional profit Rs 1935 Profit taken to pl ac Rs 1161 work in progress Rs 13026**

**MARGINAL COSTING**

1. From the following information calculate:

(a) Break Even Point

(b)Sales required earning a profit of Rs 150000

© Profit if 80000 units are sold at Rs 9 per unit

Units sold 50000

Fixed Cost 80000

Selling price per unit Rs 10

Variable cost per unit Rs 6

Ans: BEP - 20000 units, Sales – 57500 units, Profit – Rs 1, 60,000

2. Selling price per unit Rs 50

Variable cost per unit Rs 30

Fixed Cost Rs 60000

Calculate (a) Contribution (b) P/V ratio(c) Break Even Point (d) Sales to earn profit of Rs 40,000(e) New Break Even Point when selling price is reduced to Rs 45 per unit.

Ans – Contribution Rs 20,P/V ratio – 40 %,BEP – 3000 units ,Sales – Rs 2,50,000,New BEP – 4000 units.

3. You are given the following data

Year sales profit

Rs Rs

2003 1, 20,000 9,000

2004 1, 40,000 13,000

Assuming that the cost structure and selling price remain unchanged in two years, find out:

(a)P/V Ratio

(b)Break Even Point

© Profit when sales are Rs 1, 00,000

(d)Sales required to earn profit of Rs 20,000 and

(e)Margin of Safety in 2004

Ans P/V Ratio – 20%, BEP – Rs 75,000,Profit when sales are Rs 1,00,000 – Rs 5,000,Sales – Rs 1,75,000,MOS – Rs 65,000

4. In Dec 2004 the position of A ltd was as follows

Sales Rs 1, 80,000

Variable Cost Rs 1, 35,000

Contribution Rs 45,000

Fixed Cost Rs 20,000

Profit Rs 25,000

Calculate (a) P/V Ratio (b) Break Even Point (c) Net Profit when sales are Rs 2, 00,000(d) Sales required to earn a profit of Rs 45,000

Ans – P/V Ratio – 25%, BEP – Rs 80, 000, Net Profit Rs 30, 000, Sales Rs 2, 60,000

5. A Company which manufacture Small Motors has the following data

Material Rs 60

Labor Rs 80

Variable Cost 50 % of labour.Fixed overheads amounts to Rs 2.80 lakh per year

Selling price of the motor is Rs 250

(a)Determine the number of motors that have to be manufactured and sold in a year to break even

(b)How many motors have to be made and sold to make a profit of Rs 70,000 per year?

©If the sale price is reduced by Rs 20 how many motors have to be sold to break even.

Ans: BEP – 4000 units, No of motors to be sold – 5000 units, BEP – 5600 units

6. The following are the estimates for the year 2004-05 relating to a Manufacturing concern

Sales unit - 25000

Fixed Cost – 1, 20,000

Sales Value – 4, 00,000

Variable cost –Rs 8 per unit

You are required to

(a)Find out P/V Ratio, Break Even Point and Margin of Safety

(b)Calculate the Revised P/V Ratio .Break Even Point and Margin of Safety in each of the following cases

(i)Increase of 10 % in Variable Cost

(ii)Decrease of 10 % in selling price

(iii)Increase of sales volume by 5000 units

(iv)Increase in Fixed cost by Rs 15,000

Ans –P/V Ratio – 50 %, BEP – 15000 units, MOS – Rs 1, 60,000

7. The following figures are available from the record of a company as at 31 st March:

2000 2001

Rs Lakhs Rs Lakhs

Sales 150 200

Profit 30 50

Required (a) The P/V ratio and total fixed expenses for both periods

(b)The breakeven level of sales

©Sales required to earn profit of Rs 90 lakhs

(d)Profit or loss that would arise if the sales are Rs 280 lakhs

(e) Margin of safety for both periods

8. From the following particulars calculate:

(a)P/V Ratio

(b)BEP in units

©BEP in value

(d)Margin of Safety

(e)Sales for a desired profit of Rs 20,000

Selling price per unit Rs 20, variable cost per unit Rs16 and Fixed cost Rs 60,000

9. The sales and profits during the two periods were as follows:

Year Sales (Rs) Profit (Rs)

1995 20, 00,000 2, 00,000

1996 30, 00,000 4, 00,000

Calculate (a)P/V Ration(b)BEP(c)fixed cost for both the periods (d)sales required to earn a profit of Rs 5 lakhs (e) profit and when the sales are Rs 16,00,000(f) the new BEP if fixed cost increased by Rs 50,000

10. You are given the following data:

YEAR SALES (Rs) Profit (Rs)

1996 1, 20,000 9000

1997 1, 40,000 13000

Assuming that cost structure and selling price remain unchanged in two years Find out (a)P/V Ratio(b)BEP(c)profit when sales are Rs 1,00,000 and (d)sales required to earn a profit of Rs 20,000

11. The following fig are available for the record of Venus Enterprises as at 31 st March

1999 2000

Rs lakhs Rs Lakhs

Sales 150 200

Profit 30 50

Calculate

(a)The P/V Ratio and total fixed expenses

(b)The breakeven point of sales

©Sales to earn a profit of Rs 90 lakhs

(d) Profit or loss that would arise if the sales were Rs 20 lakhs

12. From the following you are required to

(i)Find the P/V Ratio, BEP AND Margin of Safety

(ii)Calculate the revised P/V Ratio, BEP and Margin Of Safety

(a)Decrease of 10 % in selling price

(b)Increase of 10 % in variable cost

© Increase of Rs 6,000 in fixed cost

Given:

Sales (units) 15,000

Selling price Rs 10 per unit

Fixed expenses Rs 34,000

Variable costs Rs 6 per unit

Ans: P/V Ratio – 40 %, BEP – 8,500 units, MOS – Rs 65,000