

$$\begin{aligned}
 \text{(b) New SP per unit} &= ₹ 30 \text{ less } 5\% &= & ₹ 28.50 \\
 \text{(-) V. Cost per unit (excluding salesmen commission)} & &= & ₹ 19.50 \\
 \text{New Contribution per unit} & & & \underline{₹ 9} \\
 \text{Fixed cost} &= ₹ 3,60,000 + ₹ 90,000 \\
 &= ₹ 4,50,000 \\
 \text{BEP (in units)} &= \frac{\text{Fixed Cost}}{\text{Contribution / unit}} \\
 &= \frac{₹ 4,50,000}{₹ 9} \\
 &= 50,000 \text{ pairs of chappals.}
 \end{aligned}$$

$$\begin{aligned}
 \text{(c) New SP per unit (₹ 30 plus 5\%)} & ₹ 31.50 \\
 \text{(-) V. Cost per unit (₹ 21 + ₹ 0.50)} & ₹ 21.50 \\
 \text{Contribution per unit} & \underline{₹ 10} \\
 \text{BEP (in units)} &= \frac{\text{Fixed Cost}}{\text{Contribution per unit}} \\
 &= \frac{₹ 3,60,000}{₹ 10} \\
 &= 36,000 \text{ pairs of chappals}
 \end{aligned}$$

Answer to Q. No.56 :

$$\begin{aligned}
 \text{(i) New SP per unit} &= ₹ 50 \text{ less } 10\% \\
 &= ₹ 45
 \end{aligned}$$

Variable Cost per unit

$$\begin{aligned}
 \text{Materials} & ₹ 20 \\
 \text{Manufacturing cost} & ₹ 15 \\
 & \underline{₹ 35}
 \end{aligned}$$

$$\begin{aligned}
 \text{Hence, contribution per unit :} \\
 &= \text{SP / Unit} - \text{VC / Unit} \\
 &= ₹ 45 - ₹ 35 = ₹ 10
 \end{aligned}$$

$$\begin{aligned}
 \text{Units to be sold to earn profit of ₹ 5,00,000} &= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{Contribution per unit}} \\
 &= ₹ 3,20,000 \text{ units}
 \end{aligned}$$

$$\begin{aligned}
 \text{(ii) Fixed Cost} &= ₹ 27,00,000 + ₹ 3,00,000 \\
 &= ₹ 30,00,000 \\
 \text{SP per unit} &= ₹ 50 \text{ (at present)} \\
 \text{Variable cost per unit} &= ₹ 35
 \end{aligned}$$

Hence, contribution per unit is ₹ 15

$$\begin{aligned}
 \text{Units to be sold for profit of ₹ 5,00,000} &= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{Contribution per unit}} \\
 &= \frac{₹ 30,00,000 + ₹ 5,00,000}{₹ 15} \\
 &= 2,33,333 \text{ units.}
 \end{aligned}$$

COST ACCOUNTING

11.55

CA R. K. MEHTA

Answer to Q. No.57.

Existing SP per unit

(-) Variable cost per unit

| | | |
|-----------------------|-----------|-------|
| 1. Material | | ₹ 270 |
| 2. Labour | 120 | |
| 3. Overheads | 30 | |
| Contribution per unit | <u>12</u> | |

$$\text{Existing P/V Ratio} = \frac{C}{S} \times 100 = \frac{108}{270} \times 100 = 40\%$$

Proposed Situation :
SP per unit

(-) Variable cost per unit

| | | |
|--------------------------------|---------------|-----------------|
| 1. Materials (₹ 120 plus 7.5%) | | ₹ x (assume) |
| 2. Labour (₹ 30 plus 10%) | ₹ 129 | |
| 3. Overheads (₹ 12 plus 5%) | ₹ 33 | |
| Contribution per unit | <u>₹ 12.6</u> | <u>₹ 174.60</u> |
| | | ₹ x - ₹ 174.60 |

(a) We are given that Existing P / V ratio of 40% is to be maintained in future.

$$\text{Hence, P / V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$40 = \frac{x - 174.60}{x} \times 100$$

Solving, we get $x = 291$

Hence, SP in the forthcoming year should be ₹ 291 if existing P/V ratio of 40% is to be maintained.

(b) Future Desired Profit equals to Present Actual Profit which is computed below :

| | | |
|------------------------------------|---|--------------------|
| Present Sales | = | ₹ 40,50,000 |
| (-) Present V. Cost (60% of Sales) | = | <u>₹ 24,30,000</u> |
| Present Contribution | = | ₹ 16,20,000 |
| (-) Fixed Cost | = | <u>₹ 14,00,000</u> |
| Profit | = | <u>₹ 2,20,000</u> |

Hence, units to be sold in future to maintain present profit is computed below :

$$= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{SP / Unit} - \text{VC / Unit}}$$

$$= \frac{\text{₹ (14,00,000 plus 3\%)} + \text{₹ 2,20,000}}{\text{₹ 270} - \text{₹ 174.60}}$$

$$= 17,422 \text{ units.}$$

Answer to Q. No.58

Evaluation of existing situation ₹ 40
Selling Price per unit

(-) Variable cost per unit

| | | |
|-----------------------|------------|------------|
| Material | ₹ 16 | |
| Conversion cost | ₹ 12 | ₹ 32 |
| Dealer's Margin | <u>₹ 4</u> | <u>₹ 8</u> |
| Contribution per unit | | ₹ 7,20,000 |

Total contribution

| | |
|-------------------------------|-------------------|
| (90,000 units x ₹ 8 per unit) | |
| (-) Fixed Cost | <u>₹ 5,00,000</u> |
| Profit | <u>₹ 2,20,000</u> |

(a) If SP per unit reduces by 5%, it becomes ₹ 40 less 5% i.e. ₹ 38.

New Variable cost per unit is :

| | |
|------------------------|----------------|
| → Materials | ₹ 16 |
| → Conversion Cost | ₹ 12 |
| → Dealer's Margin | ₹ 3.80 |
| (10% of Selling Price) | <u>₹ 31.80</u> |

$$\text{Contribution / unit} = \text{SP / unit} - \text{VC / unit}$$

$$= ₹ 38 - ₹ 31.80 = ₹ 6.20$$

Hence, units to be sold to maintain the present level of profit is computed below :

$$= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{Contribution per unit}}$$

$$= \frac{₹ 5,00,000 + ₹ 2,20,000}{₹ 6.20}$$

$$= 1,16,129 \text{ units.}$$

(b) At present, the dealer's margin is 10% of selling price. If it is increased by 25%, it will become 12.5% of selling price, i.e. 12.5% of ₹ 40 = ₹ 5.

Hence, Variable cost becomes :

| | |
|-----------------|-------------|
| Materials | ₹ 16 |
| Conversion Cost | ₹ 12 |
| Dealer's Margin | <u>₹ 5</u> |
| | <u>₹ 33</u> |

$$\text{Contribution per unit}$$

$$= \text{SP / Unit} - \text{VC / Unit}$$

$$= ₹ 40 - ₹ 33 = ₹ 7$$

Units to be sold to maintain the present profit is computed below :

$$= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{Contribution per unit}}$$

$$= \frac{₹ 5,00,000 + ₹ 2,20,000}{₹ 7}$$

$$= 1,02,857 \text{ units.}$$

COST ACCOUNTING**Answer to Q. No.59.**

11.57

CA R. K. MEHTA

$$\begin{aligned} \text{(a) Units to be sold for profit of 10\% of sales} &= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{Contribution / Unit}} \\ x \text{ units} &= \frac{\text{₹ 6,30,000} + \frac{10}{100} (\text{₹ } 20x)}{\text{₹ } 20 - \text{₹ } 15} \end{aligned}$$

Solving, we get $x = 2,10,000$ units

Hence, at sales level of 2,10,000 units, profit of 10% of sales can be achieved.

$$\begin{aligned} \text{(b) BEP (in units)} &= \frac{\text{Fixed Cost}}{\text{SP / Unit} - \text{VC / Unit}} \\ 1,20,000 \text{ units} &= \frac{\text{₹ 6,30,000}}{\text{SP / Unit} - \text{₹ } 15} \end{aligned}$$

Solving, we get $\text{SP / Unit} = \text{₹ } 20.25$

$$\begin{aligned} \text{(c) P / V ratio} &= \frac{\text{Contribution}}{\text{Sales}} \times 100 \\ &= \frac{\text{₹ } 5}{\text{₹ } 20} \times 100 = 25\% \end{aligned}$$

$$\begin{aligned} \text{Margin of Safety} &= \frac{\text{Profit}}{\text{P / V ratio}} \\ &= \frac{\text{₹ } 60,000}{25\%} = \text{₹ } 2,40,000 \end{aligned}$$

JOB AND BATCH COSTING

Q.1. Given below are the cost details for the organisation during 2013 :

| | | | |
|--------------------------|-------------|-------------------------|-------------|
| Direct Material | | Direct Factory Expenses | ₹ 3,00,000 |
| Direct Labour | ₹ 5,00,000 | Factory Overheads | ₹ 5,00,000 |
| WIP at the beginning | ₹ 10,00,000 | Selling Expenses | ₹ 2,00,000 |
| WIP at the end | ₹ 4,00,000 | Sales | ₹ 35,00,000 |
| Office & Admn. overheads | ₹ 3,00,000 | | |
| | ₹ 2,00,000 | | |

During March, 2014 there is an enquiry for a job requiring Direct Materials Cost of ₹ 5,000, Direct Labour Cost of ₹ 10,000 and Direct Factory Expenses of ₹ 1,000. (Factory overheads are recovered as percentage to prime cost, office & admn., overheads as percentage to works cost) and (selling and distribution overheads as percentage to cost of production. However it is felt that this year there is higher office and administration costs to the extent of 10% and selling cost have gone up by about 15%. What should be the quotation for the job if the same rate of profit on sale is to be maintained as during 2013.

Q.2. From the records of a manufacturing company, the following budgeted details are available:

| | ₹ | ₹ |
|------------------------------|---------------|-----------------|
| Direct Materials | | 1,99,000 |
| Direct Wages : | | |
| Machine shop (12,000 hours) | 63,000 | |
| Assembly shop (10,000 hours) | <u>48,000</u> | 1,11,000 |
| Work Overhead : | | |
| Machine shop | 88,200 | |
| Assembly shop | <u>51,800</u> | 1,40,000 |
| Administrative Overhead | | 90,000 |
| Selling Overhead | | <u>1,43,100</u> |

You are required to :

- Prepare a schedule of overhead rates from the figures available stating the basis of overhead recovery rates used under the given circumstances.
- Work out a cost estimate for the following job based on overhead computed.

| | | | |
|-------------------|--------------------------|---------------|------------------------|
| Direct Material : | 25 kg. @ ₹ 16.80 per kg. | Direct Labour | Machine shop 30 hours |
| | 15kg @ ₹ 20.00 per kg | | Assembly shop 42 hours |

Q.3. The following budgeted cost information is available from the records of a manufacturing concern for a particular year :

| | (₹ In lakhs) |
|---------------------------------|--------------|
| Direct Material | 61.20 |
| Direct Wages | 6.00 |
| - Rolling Shop (1,20,000 hours) | 14.40 |
| - Milling Shop (2,40,000 hours) | |
| Works Overheads | 9.60 |
| - Rolling Shop | 28.80 |
| - Milling Shop | 24.00 |
| Administration overheads | 43.20 |
| Selling Overheads | |

The works overheads are recovered on the basis of labour hours, the administration overheads on the basis of works cost and selling overheads on the basis of cost of production.

You are required to –

- (1) Prepare annual cost statement so as to compute the budgeted cost of sales.
- (2) Compute Overhead Recovery rates.
- (3) Compute total cost of a job which requires the following –

- (a) Direct Material ₹ 7,560.
- (b) Labour Cost
 - Rolling Shop 40 hours @ ₹ 6 per hour.
 - Milling Shop 70 hours @ ₹ 5 per hour.

Q.4. In an engineering company, the factory overheads are recovered on fixed percentage basis on direct wages and administration overheads are absorbed on fixed percentage basis on factory cost.

The company has furnished the following data relating to two jobs undertaken by it in a period :

| | Job 101 | Job 102 |
|---------------------------------|------------|------------|
| Direct Material | ₹ 54,000 | ₹ 37,500 |
| Direct Wages | ₹ 42,000 | ₹ 30,000 |
| Selling Price | ₹ 1,66,650 | ₹ 1,28,250 |
| Profit percentage on Total Cost | 10% | 20% |

Required :

- (i) Computation of percentage recovery rates of factory and administration overheads.
- (ii) Calculation of amount of factory overheads, administration overheads and profit for each of the two jobs.
- (iii) Using the above recovery rates, fix the selling price of Job 103. The additional data being :

| | |
|------------------------------------|----------|
| Direct Material | ₹ 24,000 |
| Direct Wages | ₹ 20,000 |
| Profit percentage on selling price | 12 ½ % |

Q.5. The following information for the year ended December 31st, 2013 is obtained from the books and records of a factory:

| | Completed Jobs ₹ | Work-in-progress ₹ |
|---|---------------------|-----------------------|
| Raw materials supplied from stores | 90,000 | 30,000 |
| Wages | 1,00,000 | 40,000 |
| Chargeable expenses | 10,000 | 4,000 |
| Materials transferred to work-in-progress | 2,000 | 2,000 |
| Materials returned to stores | 1,000 | |

Factory overhead is 80% of wages and office overhead 25% of factory cost.

The price of the executed contracts during 20131 was ₹ 4,10,000.

Prepare (i) Consolidated Completed Jobs Account showing the profit made or loss incurred, and also (ii) Consolidated Work-in-progress Account.

Q.6. Component 893-X is made entirely in cost centre 476. Material cost is 6 paise per component and each component takes 10 minutes to produce. The machine operator is paid 72 paise per hour and the machine hour rate is ₹ 1.50. The setting up of the machine to produce component 893-X takes 2 hours 20 minutes.

On the basis of this information, prepare Cost Sheet showing the production and setting up cost, both in total and per component, assuming a batch of (a) 10 components, (b) 100 components, and (c) 1,000 components is produced.

Q.7. Units to be produced in year are 24,000. The set-up cost of one batch is ₹ 324. The inventory carrying cost per unit per annum is ₹ 31.20. Compute Economic Batch Quantity.

Important Theoretical Questions

Q.1. Define Job Costing ? Explain, in brief, the Job Costing procedure ?

Ans.: JOB COSTING : Job Costing is a method of ascertaining cost in those industries in which goods are manufactured or services rendered against specific orders from customers.

Special features of Job Costing are :

- (i) Production is against customers' order and not for stock.
- (ii) Each job has its own characteristics and needs special treatment.
- (iii) Each job undertaken is a cost unit.
- (iv) A separate job cost sheet is prepared for each job to ascertain cost and profit/loss on the job.

Examples of industries in which Job Costing is applicable are printing press, repair workshops, general engineering companies, interior decoration, etc.

JOB COSTING PROCEDURE :

1. **Job Order Number :** Since job costing accumulates costs by specific jobs, a number must be assigned to each job so that each job may be identified.
2. **Production Order :** It is a written order to the foreman to proceed with a job. It gives the foreman instructions relating to the job and also authorizes him to start the work.
3. **Job Cost Sheet :** Costs for each job are accumulated on job cost sheets.

Q.2. Define Batch Costing ? Explain, in brief the batch costing procedure ?

Ans.: BATCH COSTING : This is a variation of job costing. While job costing is concerned with costing of jobs made to a customer's particular requirements, batch costing is used when production involves limited repetition work and a definite number of articles are manufactured in each batch to be held in stock for sale to customers generally. Thus, a batch is cost unit consisting of a group of identical items.

Batch Costing is applied in the manufacture of shoes, toys, ready-made garments, component parts of cars, radios, watches, etc.

BATCH COSTING PROCEDURE : Each batch is given a batch number in the same way a job is given a job number. Direct materials, direct labour and direct expenses identified with the batch are recorded on the Batch Cost Card. Overheads are absorbed on one of the bases already explained as is done in the Job Costing. When a batch is completed, the cost is totaled and the total cost is divided by the quantity produced to arrive at the cost per unit or per dozen, etc., as required.

Q.3. Write a note on Economic Batch Quantity.

Ans. Economic Batch Quantity (EBQ).

Industries using batch costing have to determine the economic batch quantity. The economic batch quantity may be defined as the optimum quantity in a batch of production with minimum cost with the purpose of maximising profits.

While determining economic batch quantity, two types of cost are considered.

- a) **Setting up Cost :** This is the cost of setting the machine and tools for production of a particular batch. This is of a fixed nature. Therefore, when the size of the batch is large, setting up cost per article in the batch is lower.
- b) **Carrying Cost :** This includes the cost of storage, interest on capital invested, etc. Larger size of a batch leads to higher carrying cost.

A simple formula for determining the economic batch quantity is given below :

$$\text{Economic Batch Quantity} = \sqrt{\frac{2 \cdot U \cdot S}{C}}$$

Where U = No. of units to be produced in a year
 S = Set up cost per batch
 C = Carrying cost per unit p.a.

REVISIONARY PROBLEMS

Q.1. The following direct costs were incurred on Job No.415 of Standard Radio Company.

Materials ₹ 4,010

Wages :

Deptt. A — 60 hours @ ₹ 3 per hr.

B — 40 hours @ ₹ 2 per hr.

C — 20 hours @ ₹ 5 per hr.

Overhead expenses for these three departments were estimated as follows:

Variable overheads: Deptt. A ₹ 5,000 for 5,000 labour hours

B ₹ 3,000 for 1,500 " "

C ₹ 2000 for 500 " "

Fixed overheads: Estimated at ₹ 20,000 for 10,000 normal working hours.

You are required to calculate the cost of Job 415 and calculate the price to give profit of 25% on selling price.

[Ans : ₹ 6,440]

Q.2. A factory uses job costing. The following data are obtained from its books for the year 31.3.2013.

| | |
|------------------------------------|--------|
| | ₹ |
| | 90,000 |
| Direct materials | 75,000 |
| Direct wages | 52,500 |
| Selling and distribution overheads | 42,000 |
| Administration overheads | 45,000 |
| Factory overheads | 60,900 |
| Profit | |

(a) Prepare a Job Cost Sheet indicating the Prime cost, Works cost, Production cost, Cost of sales and Sales value.

(b) In 2014, the factory receives an order for a number of jobs. It is estimated that direct materials required will be ₹ 1,20,000 and direct labour will cost ₹ 75,000. What should be the price for these jobs if factory intends to earn the same rate of profit on sales assuming that the selling and distribution overheads have gone up by 15%? The factory recovers factory overheads as a percentage of direct wages and administration and selling and distribution overheads as a percentage of works cost, based on cost rates prevailing in the previous year.

[Ans : (a) ₹ 3,65,400 (Sales), (b) ₹ 4,28,400 (Sales)]

Q.3. The following costs were incurred for a job during the year ending 31-12-2013

| | | | |
|---------------------|-------|------------------------------------|-------|
| | ₹ | | ₹ |
| Direct Materials | 5,000 | Factory Overheads | 3,000 |
| Direct Wages | 3,000 | Administrative Overheads | 4,000 |
| Chargeable Expenses | 2,000 | Selling and Distribution Overheads | 3,000 |

Selling price for the above Job was ₹ 25,000. You are required to prepare a statement showing the profit earned for the year 2013 from the Job and an estimated price of a Job which is to be executed in the year 2014. Materials, wages and chargeable expenses will be ₹ 8,000, ₹ 10,000 and ₹ 2,000 respectively for the Job. The various overheads will be recovered on the following basis while calculating the estimated price.

(a) Factory overheads as a percentage of direct wages.

(b) Administration and selling and distribution overheads a percentage of factory cost.

[Ans: ₹ 57,692]

Q.4. In respect of a factory, the following particulars have been extracted for the year 2013.

| | |
|------------------------|----------|
| Cost of materials | ₹ |
| Wages | 6,00,000 |
| Factory overheads | 5,00,000 |
| Administration charges | 3,00,000 |
| Selling charges | 3,36,000 |
| Distribution charges | 2,24,000 |
| Profit | 1,40,000 |
| | 4,20,000 |

A work order has to be executed in 2014 and the estimated expenses are : Materials ₹ 8,000, Wages ₹ 5,000.

Assuming that in 2014 the rate of factory overheads has gone up by 20%, distribution charges have gone down by 10% and selling and administration charges have gone up each by 15%, at what price should the product be sold so as to earn the same rate of profit on the selling price as in 2013?

Factory overheads are based on wages and administration, selling and distribution overheads on factory cost.

[Ans : ₹ 30,875]

Q.5. ZAB Limited undertakes to supply 1,000 units of a component per month for the months of January, February and March. Every month a batch order is opened against which material and labour costs are booked at actuals. Overheads are levied at a rate per labour hour. The selling price is contracted at ₹ 15 per unit.

From the following data, present the profit per unit of each batch order and overall position of the order for the 3,000 units.

| Month | Batch Output (Numbers) | Material Cost ₹ | Labour Cost ₹ |
|----------|---------------------------|--------------------|------------------|
| January | 1,250 | 6,250 | 2,500 |
| February | 1,500 | 9,000 | 3,000 |
| March | 1,000 | 5,000 | 2,000 |

Labour is paid at the rate of ₹ 2 per hour. The other details are:

| Month | Overheads ₹ | Total Labour Hours |
|----------|----------------|-----------------------|
| January | 12,000 | 4,000 |
| February | 9,000 | 4,500 |
| March | 15,000 | 5,000 |

[Ans : Profit per unit is ₹ 5 and total profit is ₹ 15,000]

Q.6. A jobbing factory has undertaken to supply 200 pieces of a component per month for the ensuing six months. Every month a batch order is opened against which material and labour hours are booked at actuals. Overheads are levied at a rate per labour hour. The selling price contracted for is ₹ 8 per piece. From the following data present the cost and profit per piece of each batch order and overall position of the order of 1,200 pieces.

| Month | Job and Batch Costing | | | |
|----------|-----------------------|--------------------|----------------|---------------------|
| | Batch output units | Material cost ₹ | Direct wages ₹ | Direct labour hours |
| | 210 | 650 | 120 | 240 |
| January | 200 | 640 | 140 | 280 |
| February | 220 | 680 | 150 | 280 |
| March | 180 | 630 | 140 | 270 |
| April | 200 | 700 | 150 | 300 |
| May | 220 | 720 | 160 | 320 |
| June | | | | |

The other details are:

| <i>Month</i> | <i>Overhead expenses</i> ₹ | <i>Direct labour hours</i> |
|--------------|-------------------------------|----------------------------|
| January | 12,000 | 4,800 |
| February | 10,560 | 4,400 |
| March | 12,000 | 5,000 |
| April | 10,580 | 4,600 |
| May | 13,000 | 5,000 |
| June | 12,000 | 4,800 |

[Ans : Total Profit on 1,200 units = ₹792]

Q.7. As a cost accountant you find that the selling price of a product has been calculated as follows:

| | | |
|--|---------|-------|
| Materials | ₹ 24.00 | ₹ |
| Direct Wages : 20 hours at Re. 1.00 per hour (Dept. 1 – 10 hrs. Dept. 2 – 6 hrs. Dept. 3 – 4 hrs.) | 20.00 | |
| <i>Prime Cost</i> | 44.00 | |
| Plus 50% on the prime cost | 22.00 | 66.00 |

An analysis of the previous year's profit and loss account shows the following:

| <i>Materials</i> | ₹ 35,000 | <i>Factory overheads</i> | ₹ |
|------------------|----------|----------------------------------|--------|
| Direct Wages: | | Dept. I | 5,000 |
| Dept. I | 5,000 | Dept. II | 3,000 |
| Dept. II | 6,000 | Dept. III | 3,000 |
| Dept. III | 4,000 | Selling & Distribution Overheads | 12,200 |

You are required to (a) draw up a job cost sheet; (b) calculate and enter the revised cost using the previous year's figures as a basis; and (c) add to the total job cost 10% for profit and given the final selling price.

Solutions to Revisionary Problems

Answer to Q. No. 1 :

Job Cost Sheet

| | | Amount Rs | Job No.415 Amount ₹ |
|-----------------------------------|-------------------|------------|------------------------|
| Direct Materials | | | |
| Wages — Deptt. | A — 60 hrs. × ₹ 3 | 180 | |
| | B — 40 hrs. × ₹ 2 | 80 | |
| | C — 20 hrs. × ₹ 5 | <u>100</u> | 4,010 |
| *Variable Overheads | | | |
| Deptt. | A — 60 hrs. @ ₹ 1 | 60 | |
| | B — 40 hrs. @ ₹ 2 | 80 | |
| | C — 20 hrs. @ ₹ 4 | <u>80</u> | |
| Fixed Overheads : 120 hours @ ₹ 2 | | 220 | |
| Total Cost | | | <u>240</u> |
| Profit — 25% on Selling Price | | | 4,830 |
| Selling Price | | | <u>1,610</u> |
| | | | 6,440 |

*Computation of overhead rates

| Department | A | B | C |
|------------------------------------|---|---|---|
| Variable overheads per labour hour | = | = | = |
| | | | |
| | | | |
| | | | |

Answer to Q. No. 2 :

Job Cost Sheet for the year ended 31st Dec., 2013

| Particulars | ₹ |
|------------------------------------|---------------|
| Direct Materials | 90,000 |
| Direct wages | <u>75,000</u> |
| Factory overheads | 45,000 |
| Administrative overheads | 42,000 |
| Selling and distribution overheads | 52,000 |
| Prime Cost | 1,65,000 |
| Works Cost | 2,10,000 |
| Cost of Production | 2,52,000 |
| Cost of Sales | 3,04,500 |
| Profit | <u>60,900</u> |
| Sales Value | 3,65,400 |

Calculation of Rates.

- % of factory overheads to direct wages = $\frac{45,000}{75,000} \times 100 = 60\%$
- % of administration overheads to works cost = $\frac{42,000}{2,10,000} \times 100 = 20\%$
- Selling and distribution overheads = ₹ 52,500 + 15% = ₹ 60,375
% to works cost = $\frac{60,375}{2,10,000} \times 100 = 28.75\%$
- Profit percentage of cost = $\frac{60,900}{3,04,500} \times 100 = 20\%$

Statement of estimated Cost and Price of Jobs in 2014

| Particulars | ₹ |
|---|-----------------------------------|
| Direct Materials | 1,20,000 |
| Direct wages | <u>75,000</u> |
| | Prime Cost |
| | 1,95,000 |
| Factory overheads (60% of direct labour) | <u>45,000</u> |
| | Works Cost |
| | 2,40,000 |
| Administrative Overheads (20% of works cost) | <u>48,000</u> |
| | Cost of Production |
| | 2,88,000 |
| Selling and distribution overheads (28.75% of works cost) | <u>69,000</u> |
| | Total Cost |
| | 3,57,000 |
| | Profit (20% of total cost) |
| | <u>71,400</u> |
| | Selling Price |
| | 4,28,400 |

Answer to Q. No. 3 :

Job Cost Sheet for the year ended 31st Dec., 2013

| Particulars | ₹ |
|-----------------------------------|---------------------------|
| Direct Materials | 5,000 |
| Direct Wages | 3,000 |
| Chargeable Expenses | <u>2,000</u> |
| | Prime Cost |
| | 10,000 |
| Factory Overheads | <u>3,000</u> |
| | Factory Cost |
| | 13,000 |
| Administration Overhead | <u>4,000</u> |
| | Cost of Production |
| | 17,000 |
| Selling and Distribution Overhead | <u>3,000</u> |
| | Cost of Sales |
| | 20,000 |
| | Profit |
| | <u>5,000</u> |
| | Selling Price |
| | 25,000 |

- Factory overhead as a percentage of direct wages

$$= \frac{\text{Factory overhead}}{\text{Direct wages}} \times 100 = \frac{3,00,000}{3,000} \times 100 = 100\%$$
- Admn. Overhead as a percentage of factory cost

$$= \frac{\text{Admn. overhead}}{\text{Factory cost}} \times 100 = \frac{4,000}{13,000} \times 100 = 30.77\%$$
- Selling and dist. Overhead as a percentage of factory cost

$$= \frac{\text{Selling and dist. overhead}}{\text{Factory cost}} \times 100 = \frac{3,000}{13,000} \times 100 = 23.08\%$$
- Profit as percentage of cost of sales

$$= \frac{\text{Profit}}{\text{Cost of sales}} \times 100 = \frac{5,000}{20,000} \times 100 = 25\%$$

Job Cost Sheet (Estimated price of Job in 2014)

| Particulars | ₹ |
|---|---------------------------|
| Direct Materials | 8,000 |
| Direct Wages | 10,000 |
| Chargeable Expenses | <u>2,000</u> |
| | Prime Cost |
| | 20,000 |
| Factory overhead (100% of direct wages) | <u>10,000</u> |
| | Factory Cost |
| | 30,000 |
| Admn. overhead (30.77% of factory cost) | <u>9,231</u> |
| | Cost of Production |
| | 39,231 |
| Selling and dist. Overhead (23.08% of factory cost) | <u>6,923</u> |
| | Cost of Sales |
| | 46,154 |
| | Profit |
| | <u>11,538</u> |
| | Selling Price |
| | 57,692 |

COST ACCOUNTING

Answer to Q. No. 4 :

12.9

Cost Sheet for the year 2013

CA R. K. MEHTA

Particulars

| | | Rs |
|------------------------|-----------------------------|-----------------|
| Materials | | 6,00,000 |
| Wages | | <u>5,00,000</u> |
| Factory Overheads | Prime Cost | 11,00,000 |
| | | <u>3,00,000</u> |
| Administration Charges | Factory or Works Cost | 14,00,000 |
| | | <u>3,36,000</u> |
| Selling Charges | Cost of Production | 17,36,000 |
| Distribution Charges | | 2,24,000 |
| | | <u>1,40,000</u> |
| | Total Cost or Cost of Sales | 21,00,000 |
| | Profit | <u>4,20,000</u> |
| | Sales | 25,20,000 |

Calculation of Rates

1. Factory overhead as a percentage of wages = $\frac{3,00,000}{5,00,000} \times 100 = 60\%$
2. Administration charges as a percentage of factory cost = $\frac{3,36,000}{14,00,000} \times 100 = 24\%$
3. Selling charges as a percentage of factory cost = $\frac{2,24,000}{14,00,000} \times 100 = 16\%$
4. Distribution charges as a percentage of factory cost = $\frac{1,40,000}{14,00,000} \times 100 = 10\%$
5. Profit as a percentage of total cost = $\frac{4,20,000}{21,00,000} \times 100 = 20\%$

Statement showing estimated Cost and Profit on Work Order in 2014

| | | ₹ |
|--|--------------------|--------------|
| Materials | | 8,000 |
| Wages | Prime Cost | <u>5,000</u> |
| | | 13,000 |
| Factory Overheads | Factory Cost | <u>3,600</u> |
| (60% of wages, increased by 20%, i.e., 72%) | | 16,600 |
| Administration Charges | Cost of Production | <u>4,581</u> |
| (24% of factory cost, increased by 15%, i.e., 27.6%) | | 21,181 |
| Selling Charges | | 3,054 |
| (16% of factory cost, increased by 15%, i.e., 18.4%) | Cost of Sales | <u>1,494</u> |
| Distribution Charges | | 25,729 |
| (10% of factory cost, decreased by 10%, i.e., 9%) | | <u>5,146</u> |
| Profit (20% on cost of sales) | Price to be quoted | 30,875 |

COST ACCOUNTING

12.10

Answer to Q. No. 5 : **Statement of Cost and Profit of Each Batch**

| | Jan. | Feb. | Mar. | Total |
|-----------------------------------|----------|----------|----------|----------|
| (a) Batch Output (Nos.) | 1,250 | 1,500 | 1,000 | 3,750 |
| (b) Sales Value (@ ₹ 15 per unit) | ₹ 18,750 | ₹ 22,500 | ₹ 15,000 | ₹ 56,250 |
| Costs: | | | | |
| Material | 6,250 | 9,000 | 5,000 | 20,250 |
| Wages | 2,500 | 3,000 | 2,000 | 7,500 |
| *Overheads | 3,750 | 3,000 | 3,000 | 9,750 |
| (c) Total Cost | 12,500 | 15,000 | 10,000 | 37,500 |
| (d) Profit per batch (b) – (c) | 6,250 | 7,500 | 5,000 | 18,750 |
| (e) Cost per unit (c) ÷ (a) | 10 | 10 | 10 | |
| (f) Profit per unit (d) ÷ (a) | 5 | 5 | 5 | |

Overall Position of the order for 3,000 Units

| | |
|--|----------|
| Sales Value (3,000 units × ₹ 15) | ₹ 45,000 |
| Less : Total Cost (3,000 units × ₹ 10) | ₹ 30,000 |
| Profit | ₹ 15,000 |

***Working Notes**

Overheads charged are calculated as follows:

| | Jan. | Feb. | March |
|--|--------------------------------|-------------------------------|--------------------------------|
| (i) Labour Hours: | | | |
| = $\frac{\text{Labour cost}}{\text{Labour rate per hour}}$ = | $\frac{₹ 2,500}{2} = 1,250$ | $\frac{₹ 3,000}{2} = 1,500$ | $\frac{₹ 2,000}{2} = 1,000$ |
| (ii) Overhead per hour: | | | |
| = $\frac{\text{Total overheads}}{\text{Total labour hours}}$ = | $\frac{₹ 12,000}{4,000} = ₹ 3$ | $\frac{₹ 9,000}{4,500} = ₹ 2$ | $\frac{₹ 15,000}{5,000} = ₹ 3$ |
| (iii) Overhead for batch (i) × (ii) | ₹ 3,750 | ₹ 3,000 | ₹ 3,000 |

Answer to Q. No. 6 :

Batch Cost Sheet for six months ending 30 June

| | Jan. | Feb. | Mar. | April | May | June | Total |
|----------------------|---------|-------|-------|-------|-------|-------|-------|
| Batch output (units) | 210 | 200 | 220 | 180 | 200 | 220 | 1,230 |
| Sales value @ ₹ .8 | ₹ 1,680 | 1,600 | 1,760 | 1,440 | 1,600 | 1,760 | 9,840 |
| Material cost | ₹ 650 | 640 | 680 | 630 | 700 | 720 | 4,020 |
| Direct wages | ₹ 120 | 140 | 150 | 140 | 150 | 160 | 860 |
| *Overhead expenses | ₹ 600 | 672 | 672 | 621 | 780 | 800 | 4,145 |
| Total cost | ₹ 1,370 | 1,452 | 1,502 | 1,391 | 1,630 | 1,680 | 9,025 |
| Profit per batch | ₹ 310 | 148 | 258 | 49 | -30 | 80 | 815 |
| Total cost per unit | ₹ 6.52 | 7.26 | 6.83 | 7.73 | 8.15 | 7.64 | 7.34 |
| Profit per unit | ₹ 1.48 | 0.74 | 1.17 | 0.27 | -0.15 | 0.36 | 0.66 |

Overall position of the order for 1,200 units.

| | |
|---|---------|
| Sales values of 1,200 unit @ ₹ 8/- per unit | ₹ 9,600 |
| Total cost of 1,200 units @ 7.34 per unit | ₹ 8,808 |
| Profit | ₹ 792 |

***Working Note**

Overhead expenses in each month have been charged on the basis of direct labour hours. For example, in January:

Overhead expenses in each month have been charged on the basis of direct labour hours. For example, in January:

Overhead rate = $\frac{\text{Overhead expenses}}{\text{4,800 hrs}} = 2.50$ per hour.
 = $\frac{₹ 12,000}{4,800 \text{ hrs}} = 2.50$ per hour.

Charge for January = 240 hours @ ₹ 2.50 = ₹ 600.

Similar calculations to be made for other months.

Answer to Q. No. 7 : (1) FACTORY OVERHEAD RATES

CA R. K. MEHTA

| | Departments | | |
|--|-------------|-------|-------|
| | 1 | 2 | 3 |
| (i) Factory Overheads | | | |
| (ii) Direct Labour Hours = $\frac{\text{Total Wages}}{\text{Hourly Rate}}$ | 5,000 | 3,000 | 3,000 |
| (iii) Rate per hour (i) ÷ (ii) | 1.00 | 0.50 | 0.75 |

(2) Percentage of Selling and Distribution Cost to Works Cost.

$$= \frac{12,200}{61,000} \times 100 = 20\%$$

Job....

COST SHEET

Period

| | | | |
|---|---|-------------|-------|
| Materials | | ₹ | 24.00 |
| Direct Wages Dept. 1 | ₹ | 10 | |
| Dept. 2 | | 6 | |
| Dept. 3 | | <u>4</u> | 20.00 |
| Prime Cost | | | 44.00 |
| Factory Overheads: | ₹ | | |
| Dept. 1 (10 hrs. @ ₹ 1.00) | | 10.00 | |
| Dept. 2 (6 hrs. @ ₹ 0.50) | | 3.00 | |
| Dept. 3 (4 hrs. @ ₹ 0.75) | | <u>3.00</u> | 16.00 |
| Works Cost | | | 60.00 |
| Selling and Distribution Cost (20% on works cost) | | | 12.00 |
| Cost of Sales | | | 72.00 |
| Profit (10% on cost) | | | 7.20 |
| Selling Price | | | 79.20 |

NON INTEGRATED AND INTEGRATED ACCOUNTS

Q.1. The balance in the cost ledger of manufacturing company on January 1st, 2013 was :

| | |
|---|--------|
| Stores Ledger Control Account | ₹ |
| Work in Progress Ledger Control Account | 7,000 |
| Finished Goods Ledger Control Account | 12,800 |
| General Ledger Adjustment Account | 2,000 |
| | 21,800 |

You are given the following information for the year 2013 :

| | |
|---|----------|
| ✓ Purchase of Material | 40,000 |
| ✓ Direct Factory Wages | 60,000 |
| ✓ Manufacturing Expenses | 34,600 |
| ✓ Selling and Distribution Expenses | 5,400 |
| ✓ Material Issued to Production | 37,200 |
| ✓ Manufacturing Expenses Recovered | 34,440 |
| ✓ Selling and Distribution Expenses Recovered | 5,320 |
| ✓ Sales | 1,50,000 |
| ✓ Stock of Finished Goods at December 31 st , 2013 | 4,700 |
| ✓ Work in progress at December 31 st , 2013 | 14,700 |

You are required to show the account in the cost ledger for the above year 2013, to prepare the Costing Profit & Loss Account for the year and extract the Trial Balance.

Q.2. The following balances are shown in the Cost Ledger as at January 1, 2013

| | Dr. (₹) | Cr. (₹) |
|----------------------------------|---------------|---------------|
| Finished Goods Control Account | 2,000 | |
| Work-in-progress Control Account | 4,000 | |
| Store Ledger Control Account | 10,000 | |
| Cost Ledger Control Account | --- | 16,000 |
| | <u>16,000</u> | <u>16,000</u> |

Transaction for the year ended December 31, 2013 were :

| | | |
|---|--------------|-----------------|
| Purchase of Material | | 59,000 |
| Purchase of Material directly by factory | | 3,600 |
| Return to Suppliers (Stores) | | 400 |
| Wages Paid : | | |
| Direct | 41,000 | |
| Factory Indirect | 9,000 | |
| Administrative Staff | 7,800 | |
| Selling & Distribution | <u>4,800</u> | 62,600 |
| Expenses (Direct) | | 4,400 |
| Production Expenses | | 10,200 |
| Administration Expenses | | 8,200 |
| Selling & Distribution Expenses | | 5,200 |
| Material Issued to Production | | 61,000 |
| Material Lost by fire in the Store | | 800 |
| Stores issued to Maintenance account | | 2,600 |
| Production Overhead recovered | | 22,000 |
| Administration Overhead recovered from Finished Goods | | 15,600 |
| Selling overhead recovered from cost of sales | | 10,400 |
| Finished Goods Produced by factory | | 1,32,000 |
| Cost of Goods Sold | | 1,40,000 |
| Sales | | <u>1,60,000</u> |

Write up the necessary accounts in the Cost Ledger to record the above transactions and prepare a Trial Balance on 31.12.2013.

COST ACCOUNTING

Q.3. At the beginning of a month, the opening balances in cost ledger were : ₹ (in lakhs)

| | |
|----------------------------------|-----|
| Stores Ledger Control Account | 80 |
| Work-in-Progress Control Account | 20 |
| Finished Goods Control Account | 430 |
| Building Construction Account | 10 |
| Cost Ledger Control Account | 540 |

During the month, the following transactions took place :

| | | |
|-------------------|--|-----|
| Materials | - Purchased | 40 |
| | Issued to production | 50 |
| | Issued to general maintenance | 6 |
| | Issued to building construction | 4 |
| Wages | - Gross wages paid | 150 |
| | Indirect wages | 40 |
| | For building construction | 10 |
| Works Overheads | - Actual amount incurred (excluding items shown above) | 160 |
| | Absorbed in building construction | 20 |
| | Under absorbed | 8 |
| Royalty paid | | 5 |
| Selling overheads | | 25 |
| Sales | | 450 |

At the end of the month, the stock of raw material and work-in-progress was ₹ 55 lakhs and ₹ 25 lakhs respectively. The loss arising in the raw material account is treated as factory overheads. The building under construction was completed during the month. Company's gross profit margin is 20% on sales.

Prepare the relevant control accounts to record the above transactions in the cost ledger of the company.

Q.4. As on 31st March, 2013, the following balance existed in a firm's cost ledger.

| | Debit ₹ | Credit ₹ |
|--|-----------------|-----------------|
| Stores Ledger Control Account | 3,00,000 | - |
| Work-in-progress Control Account | 1,50,000 | - |
| Finished Goods Control Account | 2,50,000 | - |
| Manufacturing Overhead Control Account | | 15,000 |
| Cost Ledger Control Account | | <u>6,85,000</u> |
| | <u>7,00,000</u> | <u>7,00,000</u> |

During the next quarter, the following transactions are recorded

| | ₹ |
|-----------------------------------|----------|
| Cost of goods produced by factory | 2,25,000 |
| Manufacturing overhead incurred | 90,000 |
| Raw Material purchased | 1,25,000 |
| Direct Wages | 40,000 |
| Indirect Wages | 20,000 |
| Cost of goods sold | 1,75,000 |
| Materials issued to production | 1,35,000 |
| Sales returned (at cost) | 9,000 |
| Materials returned to suppliers | 13,000 |
| Manufacturing overhead recovered | 85,000 |

You are required to prepare the Cost Ledger Control A/c., Stores Ledger Control A/c., Work-in-progress Control A/c., Finished Stock ledger Control A/c., Manufacturing Overhead Control A/c., Wages Control A/c., Cost of Sales A/c. and the Trial balance at the end of the quarter.

Q.5. A fire destroyed some accounting records of a company. You have been able to collect the following from the spoilt papers/records and as a result of consultation with accounting staff in respect of January, 2013.

(i) Incomplete ledger Entries :

| Raw-Materials A/C | | | |
|---------------------|--------|--|---|
| Beginning Inventory | ₹ | | ₹ |
| | 32,000 | | |

| Work-in-Progress A/C | | | |
|----------------------|-------|----------------|----------|
| Beginning Inventory | ₹ | Finished Stock | ₹ |
| | 9,200 | | 1,51,000 |

| Creditors A/C | | | |
|-----------------|--------|-----------------|--------|
| Closing Balance | ₹ | Opening Balance | ₹ |
| | 19,200 | | 16,400 |

| Manufacturing Overheads A/C | | | |
|-----------------------------|--------|--|---|
| Amount Spent | ₹ | | ₹ |
| | 29,600 | | |

| Finished Goods A/c | | | |
|--------------------|--------|-------------------|--------|
| Opening Inventory | ₹ | Closing Inventory | ₹ |
| | 24,000 | | 30,000 |

(ii) Additional Information :

- (1) The cash-book showed that ₹ 89,200 have been paid to creditors for raw-material.
- (2) Ending inventory of work-in-progress included material ₹ 5,000 on which 300 direct labour hours have been booked against wages and overheads.
- (3) The job cards showed that workers have worked for 7,000 hours. The wage rate is ₹ 10 per labour hour.
- (4) Overhead recovery rate was ₹ 4 per direct labour hour.

You are required to complete the above accounts in the cost ledger of the company.

Q.6. From the following information write up Control Accounts in the Ledger of a Factory where the Cost and Financial Accounts are integrated and prepare a Trial balance as on 31st March, 2013.

| | ₹ |
|--|----------|
| <i>Ledger Balance as on 1st April, 2012 :</i> | |
| Share Capital | 1,00,000 |
| Reserves | 25,000 |
| Sundry Debtors | 20,000 |
| Plant & Machinery | 1,25,000 |
| Sundry Creditors | 30,000 |
| Bank Overdraft | 40,000 |
| Raw Material | 50,000 |
| <i>Transactions during the year:</i> | |
| Raw Material Purchased | 80,000 |
| Raw Material issued to production | 1,00,000 |
| Raw Material on hand 31:03:2013 | 26,000 |
| Total Wages – Paid | 95,000 |
| – Direct | 93,000 |
| Manufacturing Expenses – Incurred | 87,500 |
| – Recovered to production | 93,000 |

| | |
|--|----------|
| Selling & Distribution Expenses | 10,000 |
| Finished Stock – Production in factory (at Cost) | 1,91,000 |
| - Sales (at Selling Price) | 2,86,000 |
| - Closing Stock | NIL |
| Payments to Creditors | 85,000 |
| Receipt from Debtors | 3,00,000 |

Q.7. BPR Limited keeps books on integrated accounting system. The following balances appear in the books as on April 1, 2012:

| | Dr. (₹) | Cr. (₹) |
|---------------------------------------|-----------------|-----------------|
| Stores Control A/c | 40,950 | - |
| Work-in-progress A/c | 38,675 | - |
| Finished Goods A/c | 52,325 | - |
| Bank A/c | - | 22,750 |
| Creditors A/c | - | 18,200 |
| Fixed Assets A/c | 1,47,875 | - |
| Debtors A/c | 27,300 | - |
| Share Capital A/c | - | 1,82,000 |
| Accumulated Depreciation A/c | - | 11,375 |
| Provision for Doubtful Debts A/c | - | 3,725 |
| Factory Overheads Outstanding A/c | - | 6,250 |
| Pre-Paid Administration Overheads A/c | 9,975 | - |
| Profit & Loss A/c | - | 72,800 |
| | <u>3,17,100</u> | <u>3,17,100</u> |

The transactions for the year ended on March 31, 2013 were as given below :

| | ₹ | ₹ |
|---|---------------|----------|
| Direct Wages | 1,97,925 | - |
| Indirect Wages | <u>11,375</u> | 2,09,300 |
| Purchase of materials (on credit) | | 2,27,500 |
| Materials issued to production | | 2,50,250 |
| Materials issued for repairs | | 4,550 |
| Goods finished by factory during the year (at cost) | | 4,89,125 |
| Credit Sales | | 6,82,500 |
| Cost of Goods sold | | 5,00,500 |
| Production overheads absorbed | | 1,09,200 |
| Production overheads paid during the year | | 91,000 |
| Production overheads outstanding at the end of year | | 7,775 |
| Administration overheads paid during the year | | 27,300 |
| Selling overheads incurred | | 31,850 |
| Payment to Creditors | | 2,29,775 |
| Payment received from Debtors | | 6,59,750 |
| Depreciation of Machinery | | 14,789 |
| Administration overheads outstanding at the end of year | | 2,225 |
| Provision for doubtful debts at the end of the year | | 4,590 |

Write up accounts in the integrated ledger of BPR Limited and prepare Trial Balance.

Q.8. The following discrepancies have been observed between book stock and physical stock in the course of annual stock taking.

| Product | Bin Card/Stock Card (Units) | Stores Ledger (Units) | Physical Count (Units) | Cost Per Unit (₹) |
|---------|-----------------------------|-----------------------|------------------------|-------------------|
| A | 800 | 800 | 770 | 30 |
| B | 560 | 560 | 570 | 20 |

Pass necessary journal entries to record the above situation under different circumstances.

Q.9.

The following figures have been extracted from the cost records of a manufacturing company.

| Stores | | Work-In-Progress: | |
|-----------------------------|----------|------------------------|----------|
| | ₹ | | ₹ |
| Opening Balance | | Opening Balance | 1,26,000 |
| Purchase of Material | 63,000 | Direct wages | 1,26,000 |
| Transfer from WIP | 3,36,000 | Overheads recovered | 5,04,000 |
| Issues to WIP | 1,68,000 | Closing Balance of WIP | 84,000 |
| Issues to Repairs | 3,36,000 | | |
| Deficiencies found in stock | 42,000 | | |
| | 12,600 | | |

Finished Products: Entire output is sold at a profit of 10% on Actual Cost from WIP.

Others: Wages incurred ₹ 1,47,000. Other Works Overheads ₹ 5,25,000.

Income from investments ₹ 21,000. Loss on sale of Fixed Assets ₹ 42,000

Prepare; (a) Costing Profit and Loss Account (b) Profit and Loss Account

IMPORTANT THEORETICAL QUESTIONS

Q.1. What is meant by interlocking system and integrated system of maintaining cost and financial accounts ?

Ans. There are two ways of organising cost accounts :

- Interlocking System; and
- Integrated accounts.

Under the interlocking system, cost accounts are distinct from financial accounts. In other words, two separate sets of account books are maintained - one for cost accounts and the other for financial accounts.

Under the integrated system, a single set of accounts provides both financial and cost accounting information. This means cost accounts and financial accounts are combined into one set of account books. Thus, profits as per financial accounts is the profit as per the cost accounts. In such a system, there is no need to reconcile the profits as shown by the two sets of accounts.

Q.2. What are Control Accounts ? Describe their advantages.

Ans. Under interlocking system control accounts are maintained in the cost ledger to complete double entry in cost books. These control Accounts are nothing but total accounts or adjustment accounts, summarising mass of information contained in the subsidiary ledgers.

A control account is maintained in the cost ledger so that double entry in the cost ledger may be completed and make it self-balancing. The balance in control accounts represents the total of balances in the number of accounts of similar nature maintained in that subsidiary ledger to which the control account relates.

Advantages : the main advantages of control accounts are :

- It provides a check for ensuring that all expenditure is accounted for in cost accounts with the help of control a/c.
- It provides a basis for reconciliation with the financial accounts.
- It provides ready means for preparing monthly or periodical balance sheets, Profit & Loss Accounts, and Cost Statistics.

Q.3. What is Integrated Accounting ? Briefly describe the merits of integration.

Ans. *Integrated Accounts* : Integrated accounts is defined as a "single set of accounts which provides both financial and cost accounting information".

Under the system cost and financial accounts are kept in one self contained ledger which is known as Integrated Ledger. This system does not recognise the need for separate set of accounts. There is thus no need for reconciliation of profit or loss shown by the cost and financial accounts.

Advantages of Integrated Accounting : The advantages of integrated accounting are as follows :

- (1) There is no need of reconciling the profits as only one Profit & Loss A/c is prepared.
- (2) Duplication of Clerical Work is avoided. Expenses accounts are analysed for debits to cost accounts and the summaries of the same accounts form the basis for writing up the financial accounts.
- (3) Cost data are obtained without any delay as cost accounts are posted immediately from original entries.
- (4) There is an automatic check on the correctness of cost data. It ensures that all legitimate expenditure is included in cost accounts and reliable and proven cost data is provided to management for its decisions.
- (5) This system tends to co-ordinate the functions of different sections of the accounting which leads to economy.

Q.4. What are the pre-requisites of Integrated Accounting?

- Ans.**
- (1) It should be decided whether cost and financial accounts are to be fully integrated or to be integrated upto a particular stage like prime cost or factory cost.
 - (2) All accounts should be appropriately coded so as to facilitate understanding and analysis.
 - (3) Proper coordination should exist between the staff responsible for financial and cost aspects of the accounts for generating correct information and using it effectively.
 - (4) A separate record should be maintained in respect of such items which are treated differently in cost and financial accounts.

REVISIONARY PROBLEMS

Q.1. The following are the balances in the Cost Ledger of X Ltd. on 1st January, 2009 :

| | Dr. | Cr. |
|--|--------|---------------|
| | ₹ | ₹ |
| Stores ledger control account | 4,500 | — |
| Work-in-progress ledger control account | 10,200 | — |
| Finished goods ledger control account | 6,800 | — |
| Cost ledger control account | — | <u>21,500</u> |
| Summary of transactions during the year 2009 : | | ₹ |
| Materials purchased | | 20,000 |
| Materials issued to jobs (for production) | | 18,000 |
| Materials issued for repairs in factory | | 1,000 |
| Direct wages paid | | 15,000 |

| | |
|--|----------|
| Indirect wage paid | 5,000 |
| Factory expenses paid | 6,000 |
| Administration expenses paid | 15,000 |
| Selling expenses paid | 7,000 |
| Cost of finished goods produced by factory | 55,000 |
| Cost of finished goods sold | 70,000 |
| Sales | 1,00,000 |

Prepare control accounts and costing profit and loss account in the cost ledger assuming that the overheads recovered and incurred are the same and that administration overheads are charged to finished goods.

Q.2. The balance in a company's work-in-progress control accounts as on 31st March, 2008 was ₹ 5,00,000. During the following month, the transactions that took place were as thus :

| | |
|---|----------|
| Direct wages incurred | ₹ 60,000 |
| Direct materials issued | 2,80,000 |
| Completed work billed at cost | 5,25,000 |
| Factory overheads recovered | 1,20,000 |
| Special purchases for job directly by factory | 12,000 |
| Direct expenses | 17,000 |
| Materials returned to stores | 4,000 |

You are required to write up the ledger account and state its final balance.

Q.3. From the following data write up the various accounts as you envisage in the cost ledger and prepare a trial balance as on 31st March, 2010 :

| | |
|---|---------------|
| (a) Balance as on 1 st April, 2009 : | ₹ (thousands) |
| Material control | 1,240 |
| Work-in-progress | 625 |
| Finished Goods | 1,240 |
| Production Overhead | 84 (Dr.) |
| Administration Overhead | 120 (Cr.) |
| Selling and Distribution Overhead | 65 (Dr.) |
| General Ledger Control | 3,134 |

| | |
|--|-------|
| (b) Transactions for the year ended 31 st March, 2010 : | ₹ |
| Materials : | 4,801 |
| Purchases | 4,774 |
| Issued to : | 412 |
| Jobs | 34 |
| Maintenance works | 72 |
| Administration office | 1,493 |
| Selling department | 650 |
| Direct wages | 84 |
| Indirect wages | |
| Carriage expenditure from store to factory | 2,423 |
| Production overhead : | 3,591 |
| Incurred | |
| Absorbed | 740 |
| Administration overheads : | 529 |
| Incurred | 148 |
| Allocated to finished goods | |
| Allocated to sales | |

| | |
|--------------------------|--------|
| Sales overheads : | 642 |
| Incurred | 820 |
| Absorbed | 9,584 |
| Finished goods produced | 9,773 |
| Cost of goods sold | 12,430 |
| Sales realization | |

Q.4. Alpha Ltd. maintains integrated accounts of cost and financial accounts. From the following details write up control accounts :

| | |
|------------------------|----------|
| | ₹ |
| | 3,00,000 |
| Share capital | 2,00,000 |
| Reserve | 5,00,000 |
| Sundry creditors | 5,75,000 |
| Plant and machinery | 2,00,000 |
| Sundry debtors | 1,50,000 |
| Opening stock (stores) | 75,000 |
| Bank and cash balance | |

Transactions during the year were as follows :

| | |
|--|-----------|
| | 10,00,000 |
| Stores purchased | 10,50,000 |
| Stores issued to production | 95,000 |
| Stores in hand | 6,50,000 |
| Total wages incurred | 6,00,000 |
| Direct wages charged to production | 3,00,000 |
| Manufacturing expenses incurred | 2,75,000 |
| Manufacturing expenses charged to production | 1,00,000 |
| Selling and distribution expenses | 18,00,000 |
| Finished goods produced by factory | 22,00,000 |
| Sales at selling price | 95,000 |
| Closing stock (finished) | 11,00,000 |
| Payments to creditors | 21,00,000 |
| Receipts from debtors | |

Q.5. A company operates separate cost accounting and financial accounting systems. The following is the list of Opening Balances as on 01.04.2012 in the Cost Ledger :

| <u>Particulars</u> | Dr. (₹) | Cr. (₹) |
|-----------------------------------|----------|----------|
| Stores Ledger Control Account | 53,375 | - |
| WIP Control Account | 1,04,595 | - |
| Finished Goods Control Account | 30,780 | - |
| General Ledger Adjustment Account | | 1,88,750 |

Transactions for the quarter ended 30.06.2012 are as under :

| <u>Particulars</u> | (₹) |
|--|----------|
| Material purchased | 26,700 |
| Materials issued to production | 40,000 |
| Materials issued for factory repairs | 900 |
| Factory wages paid (including indirect wages ₹ 23,000) | 77,500 |
| Production overheads incurred | 95,200 |
| Production overheads under-absorbed and written off | 3,200 |
| Sales | 2,56,000 |

The Company's gross profit is 20% on Sales ~~Cost~~. At the end of the quarter, WIP stocks increased by ₹ 7,500.

Required : Prepare the relevant Control Accounts, Costing Profit and Loss Account and General Ledger Adjustment Account to record the above transactions for the quarter ended 30.06.2012.

Q.6. On 31st March, 2011 the following balances were extracted from the books of the Supreme Manufacturing Company :

| | Dr. (₹) | Cr. (₹) |
|-------------------------------|---------------|---------------|
| Stores Ledger Control A/c. | 35,000 | |
| Work-in-Progress Control A/c. | 38,000 | |
| Finished Goods Control A/c. | 25,000 | |
| Cost Ledger Control A/c. | | 98,000 |
| | <u>98,000</u> | <u>98,000</u> |

The following transactions took place in April, 2011.

Raw Materials :

| | ₹ |
|---|----------|
| Purchased | 95,000 |
| Returned to Suppliers | 3,000 |
| Issued to Production | 98,000 |
| Returned to Stores | 3,000 |
| Productive Wages | 40,000 |
| Indirect Labour | 25,000 |
| Factory Overheads Incurred | 50,000 |
| Selling and Administrative Expenses | 40,000 |
| Cost of Finished Goods transferred to warehouse | 2,13,000 |
| Cost of Goods sold | 2,10,000 |
| Sales | 3,00,000 |

Factory Overheads are applied to production at 150% of Direct Wages, any under/over absorbed overhead being carried forward for adjustment in the subsequent months.

Required :

- (a) Cost Ledger Control A/c.
- (b) Stores Ledger Control A/c.
- (c) Work-in-progress Control A/c.
- (d) Finished Goods Control A/c.
- (e) Factory Overhead Control A/c.
- (f) Costing Profit and Loss A/c.

Also prepare Trial Balance as at 30th April, 2011.

Q.7. The following figures have been extracted from the cost records of a manufacturing unit :

| | ₹ |
|------------------------------------|----------|
| Stores : Opening balance | 32,000 |
| Purchases of material | 1,58,000 |
| Transfer from work-in-progress | 80,000 |
| Issues to work-in-progress | 1,60,000 |
| Issues to repair and maintenance | 20,000 |
| Deficiencies found in stock-taking | 6,000 |
| Work-in-progress : Opening balance | 60,000 |
| Direct wages applied | 65,000 |
| Overheads applied | 2,40,000 |
| Closing balance of WIP | 45,000 |

Finished products : Entire output is sold at a profit of 10% on actual cost from work-in-progress. Wages incurred ₹ 70,000, Overhead incurred ₹ 2,50,000.

Items not included in cost records : Income from investment ₹ 10,000, Loss on sale of capital assets ₹ 20,000.

Draw up Store Control Account, Work-in-progress Control Account, Costing Profit and Loss Account, Profit and Loss Account and Reconciliation Statement.

Q.8. Pass journal entries in the cost books (non-integrated system) for the following transactions:

(i) Materials worth ₹ 25,000 returned to stores from job.

(ii) Gross Total wages paid ₹ 50,000. Wages analysis book detailed ₹ 20,000 for direct labour, ₹ 12,000 towards indirect factory labour, ₹ 10,000 towards salaries to office staff and ₹ 8,000 for salaries to selling and distribution staff.

Q.9. Dutta Enterprises operates an integral system of accounting. You are required to pass the Journal Entries for the following transactions that took place for the year ended 30th June, 2008.

| | ₹ |
|---|----------|
| Raw materials purchased (50% on Credit) | 6,00,000 |
| Materials issued to production | 4,00,000 |
| Wages paid (50% Direct) | 2,00,000 |
| Wages charged to production | 1,00,000 |
| Factory overhead incurred | 80,000 |
| Factory overheads charged to production | 1,00,000 |
| Selling and distribution overheads incurred | 40,000 |
| Finished goods produced at cost | 5,00,000 |
| Sales (50% Credit) | 7,50,000 |
| Closing stock | Nil |
| Receipts from debtors | 2,00,000 |
| Payments to creditors | 2,00,000 |

Q.10. The following transactions are extracted from the books of XYZ Ltd. You are required to journal entries under Integrated Accounts System:

| | ₹ |
|--|----------|
| 1. Purchase of raw materials on credit | 4,00,000 |
| 2. Carriage inward | 3,000 |
| 3. Paid to creditors | 3,00,000 |
| 4. Stores issued | 2,50,000 |
| 5. Direct wages paid | 2,00,000 |
| 6. Indirect wages paid | 70,000 |
| 7. Works overheads incurred | 3,60,000 |
| 8. Materials issued for repairs | 2,000 |
| 9. Selling expenses paid | 10,000 |
| 10. Office expenses paid | 4,000 |
| 11. Works overheads absorbed | 4,10,000 |
| 12. Cost of completed jobs | 8,60,000 |