2 CHAPTER

Cost Sheet

Direct Material	• Materials which are present in the finished product or can be identified in the product are called direct materials. • For example, cloth in dress making, materials purchased for a specific job etc.
Indirect Material	• It indicates that material which cannot be identified with the individual cost centre. • For example, consumables stores, cotton waste, oils and lubricants, stationery material etc.
Direct Labour	• Labour which can be identified or attributed wholly to a particular job, product or process or expended in converting raw materials into finished products is called direct labour. • For example, labour engaged on the actual production of the product etc. • Some of the elements to be included are as follows: ❍ Wages and salary ❍ Allowances and incentive ❍ Overtime ❍ Bonus or ex-gratia ❍ Employer's contribution to social security schemes ❍ Any other benefits in cash or in kind
Indirect Labour	• Labour costs which cannot be allocated but can be apportioned to or absorbed by cost units or cost centers is known as indirect labour. • Examples of indirect labour includes – wages paid to foreman/storekeeper, salary of works manager etc.
Direct Expenses	These are expenses other than direct material and direct labour. Few examples are: • Fee for technical assistance and know-how • Cost of utilities such as power & fuel, steam etc. • Hire charges paid for firing specific equipment • Royalty paid or payable for production or provision of service • Amortized cost of moulds, patterns, patents etc. • Cost for product or service specific design or drawing • Cost of product or service specific software • Other expenses which are directly related with the production of goods or provision of service

Indirect Expenses	• These are those expenses which cannot be identified with the individual cost centers. • For example, Factory rent and rates, insurance of plant and machinery, etc.
Overheads	• It is aggregate total of indirect material, indirect labour and indirect expenses.
Classification of Overheads	• **Factory overheads -** These overheads consist of all overhead costs incurred from the stage of procurement of material till the stage of production of finished goods e.g. depreciation on factory building, wages paid to foreman/ storekeeper, haulage, consumables, etc. • **Office and Administration Overheads -** These overheads consist of all overhead costs incurred for the overall administration of the organization. They include, office supplies, stationery items, directors remuneration, audit fees, bank charges, telephone expenses etc. • **Selling and Distribution Overheads -** These overheads consist of all costs incurred from the stage of final manufacturing of finished goods till the stage of sale of goods in the market and collection of dues from the customers e.g. cost of samples, packing material, commission paid to sales manager, warehouse charges, bad debts, advertisement etc.
Prime Costs	• The aggregate of direct material, direct labour and direct expenses is called prime cost.
Quality Control Costs	• It is the cost incurred to minimize or avoid the number of defects. • E.g. workers training, quality engineering cost etc.
Research & Development Cost	• It is the cost related to improvement of process, system or services are included in the cost of manufacturing or service.
Credit for Recoveries	• It is the realized or realizable value or scrap or waste. • It is deducted while computing cost of production.
Primary Packaging	• It is the cost required to be incurred for packing without which it can't be sold to the consumer.
Secondary Packaging	• It is the cost required to be incurred that helps in storage, transportation and otherwise making the product marketable.
Cost of Production	• It is the sum total of prime cost and factory related costs and overheads. • It also includes quality control costs, research & development cost (process related), administrative overheads related to production, primary packing cost and credit for recoveries.
Cost of Goods Sold	• It is the cost of production for goods sold. It is computed after adjusting opening stock and closing stock of finished goods.
Cost of Sales	• It is the cost incurred to make the product available to the customer or consumer. • It is the sum total of cost of goods sold, selling overheads, distribution overheads, administrative overheads (general) and secondary packing expenses.

Cost Sheet	• **Cost Sheet –** It is a statement which shows the break-up and build-up of costs. It is a document which provides for the assembly of the detailed cost of a cost center or a cost unit.
Uses of Cost Sheet	• Presentation of cost information • Determination of selling price • Ascertainment of profitability • Product-wise and location-wise cost analysis • Inter-firm and Intra-firm cost comparison • Preparation of cost estimates for submitting tenders/quotations • Preparation of budgets • Disclosure of operational efficiency for cost control.
Advantages of Cost Sheet	• It provides total cost as well as cost per unit of production or service. • It helps in cost estimation for tenders and other purposes. • It helps in determination of selling price. • It provides data for cost control. • It helps in cost comparison
Difference between Production Account and Cost Sheet	(a) Production Account is based on double entry system whereas Cost Sheet is not based on double entry system. (b) Production Account consists of two parts. The first part shows cost of the components and total production cost. The second part shows the cost of sales and profit for the period. Cost Sheet presents the elements of costs in a classified manner and the cost is ascertained at different stages such as prime cost: works cost; cost of production; cost of goods sold; cost of sales and total cost. (c) Production Account shows the cost in aggregate and thus facilitates comparison with other financial accounts. Cost Sheet shows the cost in detail and analytical manner, which facilitate comparison of cost for the purpose of cost control. (d) Production Account is not useful for preparing tenders or quotations. Estimated cost sheets can be prepared on the basis of actual cost sheets and these are useful for preparing tenders or quotations.
Treatment of Audit Fee	• It is just like any other normal item of expense and it is included as an expense in the cost accounts and financial accounts. • In both the accounts, it may be included as an expense on accrual basis • This expense is part of the administration overheads and absorbed or charged to the product cost at some or the other pre-determined rate.
Treatment of Holiday with Pay	• Every worker is entitled to certain number of holiday during the year for which he is paid. • Holiday with pay is estimated in advance for the full year and is included in the cost. • For direct workers holiday with pay may be treated as a direct cost by inflating the wage-rate. • For all indirect workers, holiday with pay is treated as an overhead.

Treatment of Casual Wages	• It means wages payable to casual workers. • Casual workers are those workers who are employed on daily basis and are not on the regular payroll of the employer. • Casual workers are mostly untrained and indirect workers. Their wages therefore become a part of production overhead.
Treatment of Notional Rent of Factory Building	• It is a reasonable charge raised in the cost accounts for the use of owned premises. • One reason for the use of such a nominal charge is to enable comparison between the cost of items made in factories which are owned and in rented factories. • However, it may be noted that the case of owned factory cost for the same is accounted for by means of depreciation.
Treatment of Research and Development Expenses	• Research and development cost is the cost/expense incurred for searching new or improved products, production methods/techniques or plants/ equipment. • Research Cost may be incurred for carrying basic or applied research. • Cost of Basic Research (if it is a continuous activity) shall be charged to the revenues of the concern. • Cost of applied research, if relates to all existing products and methods of production then it should be treated as a manufacturing overhead of the period during which it has been incurred and absorbed. • If applied research is conducted for searching new products or methods of production etc., then the research costs treatment depends upon the outcome of such research. • If research proves successful, then such costs will be charged to the concerned product. • If it appears unsuccessful then the costs incurred may be amortized by charging to the Costing P&L Account of one or more years depending upon the size of expenditure.
Treatment of Fringe Benefits	• In every organization, workers are paid some benefits in additional to their normal wage or salary known as fringe benefits like children education allowance, holiday pay etc. • Expenses incurred on factory workers should be treated as factory overheads and recovered accordingly. • Fringe benefits to office and selling and distribution staff be treated as administration overheads and selling and distribution overheads respectively and recovered accordingly.
Treatment of Bad Debts	• Some authors believe that bad debts are financial losses and therefore should not be included in the cost of a particulars product or job. • Another view is that, bad debts are a part of selling and distribution overheads, especially where they arise in the normal course of trading. Therefore they should be treated in cost accounts in the same way as any other selling and distribution expenses.

Treatment of Training Costs	• These costs comprises of wages and salaries of the trainees or learners, payments of fees etc. for training, occurring while providing training facilities to the new recruits. • Usually there is a service cost center, known as the training sections, to which all the training costs are allocated. • The total cost of training section is thereafter apportioned to production centers.
Treatment of Packing Expenses	• Primary packing is a part of the production cost e.g., packing of chemicals and medicines etc. and should be included in the production cost of the product. • Secondary packing is a part of the selling and distribution cost. It is required while selling/transferring the product and for its safe delivery to the customer. Such expenses are charged to selling and distribution overheads
Treatment of Expenses on Removal and re-erection of Machinery	• Such expenses may be incurred due to factors like change in the method of production an addition or alteration in the factory building, change in the flow of production, etc. • All such expenses are treated as production overheads. When amount of such expenses is large, it may be spread over a period of time. • If such expenses are incurred due to faulty planning or some other abnormal factor, then they may be charged to Cost Profit and Loss Account.
Treatment of Employee Welfare Cost	• It includes those expenses, which are incurred by the employers on the welfare activities of their employees e.g., expenses on canteen, hospital, etc. • These expenses should be separately recorded as Welfare Department Costs. These Costs may be apportioned to production cost centres on the basis of total wages or the number of men employed by them.
Treatment of Small Tools	• Small tools are mechanical appliances used for various operations on a work place e.g. screw, drill bits, hammer etc. • They may be capitalized and depreciated over life if their life is ascertainable. Deprecation may be charged to factory overheads or overheads of department using small tools. • If their life is not ascertainable then to be charged fully to the department to which they have been issued.
Treatment of Carriage Inwards Material	• It represents the expenditure incurred in bringing raw materials to factory from outside. • This expense is directly allocated to materials and thus forms a part of the cost of such materials. • When this is not practicable and allocation to specific items of materials is difficult, the expense is treated as manufacturing overhead and is charged to cost of production at a predetermined rate.
Treatment of Storage Losses	• Losses due to reasons like evaporation, shrinkage, etc. are considered as normal losses. Such losses are absorbed by good production units by inflating the cost of material issued for production. • Losses due to fire, flood, storm, theft etc. are treated as abnormal losses. If these losses are heavy and are not recoverable from the insurance authorities, it is preferred to charge them to Costing Profit and Loss Account.

Treatment of Insurance Costs on Stock of Raw Materials	• The amount paid as insurance costs on stocks of raw materials is meant for covering the risk which may arise due to fire, theft, riot etc. • The insurance cost is apportioned over different materials on the basis of their value. • This cost may be charged direct to the cost of material.
Treatment of Stores Overheads	• It include all those expenses (excluding material costs) which are incurred by stores department to perform its function such as purchase, storage etc. e.g. rent, insurance etc. • They are treated as a part of factory overheads and are charged to various production and non-production departments on the basis of service received by each department. • It can be recovered using number of stores requisition, value of material etc.
Treatment of Interest on Capital	• It includes any payment in nature of interest for use of non-equity fund and incidental cost that an entity incurs in arranging those funds. • For example, interest and financing charges are interest on borrowings, financing charges in respect of finance leases, cash discount allowed to customers. • It will be presented in the cost statement as a separate item of cost of sales.
Subsidy or Grant or Incentive	• Any subsidy/grant/incentive received from the government or from other sources should be deducted from the cost of purchase.
GST	• GST is paid on inter-state and intra-state sale and collected from the buyers. • It is excluded from the cost of purchase if credit for the same is available. • Unless mentioned specifically it should not form part of cost of purchase.
Commission or Brokerage	• Commission or brokerage paid is added with the cost of purchase.

PRACTICE QUESTIONS

1. The following figures are extracted from the Trial Balance of SK & Co. on 30th September: [SM]

		Amount (₹)
	Inventories: Finished Stock	80,000
	Raw Materials	1,40,000
	Work in progress	2,00,000
	Office Appliances	17,400
	Plant & Machinery	4,60,500
	Buildings	2,00,000
	Sales	7,68,000
	Sales return and Rebates	14,000
	Material Purchased	3,20,000
	Freight incurred on materials	16,000
	Purchase return	4,800
	Direct Labour	1,60,000
	Indirect Labour	18,000
	Factory supervision	10,000
	Repairs and upkeep – factory	14,000
	Heat, Light and Power	65,000
	Rates and Taxes	6,300
	Miscellaneous Factory Expenses	18,700
	Sales commission	33,600
	Sales Travelling	11,000
	Sales Promotion	22,500
	Distribution Dept. salaries and expenses	18,000
	Office salaries and expenses	8,600
	Interest on Borrowed Funds	2,000
	Further details are available as follows:	
(i)	Closing Inventories: Finished Goods	1,15,000
	Raw Goods	1,80,000
	Work in progress	1,92,000
(ii)	Accrued expenses on: Direct Labour	8,000
	Indirect Labour	1,200
	Interest on borrowed funds	2,000

(iii) Depreciation to be provided on:
Office Appliances – 5%
Plant & Machinery – 10%
Building – 4%

(iv) Distribution of the following costs:
Heat, Light and Power to Factory, Office and Distribution in the ratio 8:1:1
Rates and Taxes two-thirds to Factory and one-third to office
Depreciation on Buildings to factory, office and Distribution in the ratio 8:1:1

With the help of the above information, you are required to prepare:

(i) statement of cost showing various elements of cost and

(ii) statement of profit

Ans. (i) ₹7,14,020; (ii) ₹35,980.

2. The books of SK Ltd. presents the following data for the month of March:

[SM, Similar to Jan 2021, Similar to Nov 2018]

Direct labour cost ₹17,500 being 175% of works overheads

Cost of goods sold excluding administrative expenses ₹56,000

Inventory accounts showed the following opening and closing balances:

	March 1 (₹)	March 31 (₹)
Raw materials	8,000	10,600
Work-in-progress	10,500	14,500
Finished goods	17,600	19,000

Other data are:

Selling expenses	₹3,500
General and administration expenses	₹2,500
Sales for the month	₹75,000

You are required to:

(a) Calculate the value of materials purchased

(b) Prepare a cost statement showing the various elements of cost and also the profit earned.

Ans. (a) ₹36,500; (b) COS = ₹62,000; Profit = ₹13,000.

3. SK ltd. has the following expenditures for the year ended 31st December: **(RTP May 2024)**

Particulars	Amount (₹)	Amount (₹)
Raw material purchased		5,00,00,000
Freight inward		9,20,600
Wages paid to factory workers		25,20,000
Royalty paid for production		1,80,000
Amount paid for power & fuel		3,50,000
Job charges paid to job worders		3,10,000
Stores and spares consumed		1,10,000
Depreciation on office building		50,000

Particulars	Amount (₹)	Amount (₹)
Repairs & maintenance paid for:		
- Plant & Machinery	40,000	
- Sales office building	20,000	60,000
Insurance premium paid for:		
- Plant & Machinery	28,200	
- Factory building	18,800	47,000
Expenses paid for quality control check		18,000
Research & Development cost paid for improvement in production process		20,000
Expenses paid for pollution control and engineering & maintenance		36,000
Salary paid to Sales & marketing managers		5,60,000
Salary paid to General Manager		6,40,000
Packing cost paid for:		
- Primary packing necessary to maintain quality	46,000	
- For re-distribution of finished goods	80,000	1,26,000
Fee paid to independent directors		1,20,000
Performance bonus paid to sales staffs		1,20,000
Value of stock as on 1st April of last year:		
- Raw materials	10,00,000	
- Work-in-process	8,60,000	
- Finished goods	12,00,000	30,60,000
Value of stock as on 31st March of current year:		
- Raw materials	8,40,000	
- Work-in-process	6,60,000	
- Finished goods	10,50,000	25,50,000

Amount realized by selling of scrap and waste generated during manufacturing process - ₹48,000. From the above data you are requested to prepare statement of cost for SK ltd. for the year ended 31st March, showing (i) Prime cost, (ii) Factory cost, (iii) Cost of production, (iv) Cost of goods sold and (v) Cost of sales.

Ans. (i) ₹5,44,40,600; (ii) ₹5,48,73,600; (iii) 5,49,09,600; (iv) ₹5,50,59,600; (v) ₹5,66,49,600.

4. SK ltd. has the following expenditures for the year ended 31st March: **[SM]**

Particulars	Amount (₹)	Amount (₹)
Raw materials purchased		10,00,00,000
GST paid on the above purchases @18% (eligible for input tax credit)		1,80,00,000
Freight inwards		11,20,600

Particulars	Amount (₹)	Amount (₹)
Wages paid to factory workers		29,20,000
Contribution made towards employees' PF and ESI		3,60,000
Production bonus paid to factory workers		2,90,000
Royalty paid for production		1,72,600
Amount paid for power & fuel		4,62,000
Amount paid for purchase of moulds and patterns (life is equivalent to two years production)		8,96,000
Job charges paid to job workers		8,12,000
Stores and spares consumed		1,12,000
Depreciation on:		
Factory building	84,000	
Office building	56,000	
Plant & Machinery	1,26,000	
Delivery vehicles	86,000	3,52,000
Salary paid to supervisors		1,26,000
Repairs & maintenance paid for:		
Plant & Machinery	48,000	
Sales office building	18,000	
Vehicles used by directors	19,600	85,600
Insurance premium paid for:		
Plant & Machinery	31,200	
Factory building	18,100	
Stock of raw materials & WIP	36,000	85,300
Expenses paid for quality control check activities		19,600
Salary paid to quality control staffs		96,200
Research & development cost paid for improvement in production process		18.200
Expenses paid for pollution control and engineering & maintenance		26,600
Expenses paid for administration of factory work		1,18,600
Salary paid to functional managers:		
Production control	9,60,000	
Finance & accounts	9,18,000	
Sales & Marketing	10,12,000	28,90,000
Salary paid to General Manager		12,56,000
Packaging cost paid for:		
Primary packing necessary to maintain quality	96,000	
For re-distribution of finished goods	1,12,000	2,08,000

Particulars	Amount (₹)	Amount (₹)
Wages of employees engaged in distribution of goods		7,20,000
Fee paid to auditors		1,80,000
Fee paid to legal advisors		1,20,000
Fee paid to independent directors		2,20,000
Performance bonus paid to sales staff		1,80,000
Value of stock as on 1st April of last year		
Raw materials	18,00,000	
Work-in-process	9,20,000	
Finished goods	11,00,000	38,20,000
Value of stock as on 31st March of current year		
Raw materials	9,60,000	
Work-in-process	8,70,000	
Finished goods	18,00,000	36,30,000

Amount realized by selling of scrap and waste generated during manufacturing process is ₹86,000. From the above data you are required to prepare statement of cost for the year ended 31st March, showing (i) prime cost, (ii) factory cost, (iii) cost of production, (iv) cost of goods sold and (v) cost of sales.

Ans. (i) ₹10,74,25,200; (ii) ₹10,80,83,100; (iii) ₹10,93,05,700; (iv) ₹10,86,05,700; (v) ₹11,35,03,300.

5. SK Ltd. produces a single product X. During the month of July 2023, the company has produced 14,560 tonnes of X. The details for the month of July 2023 are as follows:

[RTP Nov 2023]

(i) Materials consumed ₹15,00,000
(ii) Power consumed in operating production machinery 13,000 Kwh @ ₹7 per Kwh
(iii) Diesels consumed in operating production machinery 1,000 litres @ ₹93 per litre
(iv) Wages & salary paid – ₹64,00,000
(v) Gratuity & leave encashment paid – ₹44,20,000
(vi) Hiring charges paid for Heavy Earth Moving machines (HEMM) engaged in production - ₹13,00,000. Hiring charges is paid on the basis of production.
(vii) Hiring charges paid for cars used for official purpose – ₹80,000
(viii) Reimbursement of diesel cost for the cars – ₹20,000
(ix) The hiring of cars attracts GST under RCM @5% without credit.
(x) Maintenance cost paid for weighing bridge (used for weighing of final goods at the time of dispatch) – ₹7,000
(xi) AMC cost of CCTV installed at weighing bridge (used for weighing of final goods at the time of dispatch) and factory premises is ₹6,000 and ₹18,000 per month respectively.
(xii) TA/ DA and hotel bill paid for sales manager- ₹16,000

The company has 180 employees works for 26 days in a month.

Required to prepare a Cost sheet for the month of July 2023.

Ans. Prime cost - ₹1,38,04,000; COS = ₹1,39,56,000

6. A fire occurred in the factory premises on October 31. The accounting records have been destroyed. Certain accounting records were kept in another building. They reveal the following for the period September 1 to October 31:

(a)	Direct materials purchased	₹2,50,000
(b)	Work in progress inventory (1 Sep)	₹40,000
(c)	Direct material inventory (1 Sep)	₹20,000
(d)	Finished goods inventory (1 Sep)	₹37,750
(e)	Indirect manufacturing costs	40% of conversion cost
(f)	Sales revenue	₹7,50,000
(g)	Direct Manufacturing labour	₹2,22,250
(h)	Prime costs	₹3,97,750
(i)	Gross margin percentage based on revenues	30%
(j)	Cost of goods available for sale	₹5,55,775

The cost is fully covered by insurance. The insurance company wants to know the historical cost of the inventories as the basis for negotiating a settlement, although the settlement is actually to be based on replacement cost, not historical cost.

Required:

(a) Finished goods inventory 31 October

(b) Work in process inventory 31 October

(c) Direct material inventory 31 October

Ans. (a) ₹30,775; (b) ₹67,892; (c) ₹94,500.

7. Prepare a cost sheet to show the total cost of production and cost per unit of goods manufactured by a company for the month of August. Also, find the cost of sales.

	₹		₹
Stock of raw material 1-08	3,000	Factory rent and rates	3,000
Raw material purchased	28,000	Office Rent	500
Stock of raw material 31-08	4,500	General Expenses	400
Manufacturing wages	7,000	Discount on sales	300
Depreciation on plant	1,500	Advertisement exp. to be charged fully	600
Loss on sale of part of plant	300	Income tax paid	2,000

The number of units produced during August was 3,000. The stock of finished goods was 200 and 400 units on 1-08 and 31-08 respectively. The total cost of units on hand on 1-08 was ₹2,800. All these had been sold during the month.

Ans. COP = ₹38,000; Cost per unit manufactured = ₹12.67; COS = ₹37,533.

8. The following data relates to manufacturing of a standard product during the month of the March, 2021: **[July 2021]**

Particulars	Amount (in ₹)
Stock of Raw material as on 01-03-2021	80,000

Work in progress as on 01-03-2021	50,000
Purchase of raw material	2,00,000
Carriage inwards	20,000
Direct wages	1,20,000
Cost of special drawing	30,000
Hire charges paid for Plant	24,000
Return of Raw Material	40,000
Carriage on return	6,000
Expenses for participation in Industrial exhibition	8,000
Legal charges	2,500
Salary to office staff	25,000
Maintenance of office building	2,000
Depreciation on Delivery Van	6,000
Warehousing charges	1,500
Stock of Raw material as on 31-03-2021	30,000
Stock of Work in Progress as on 31-03-2021	24,000

Store overheads on material are 10% of material consumed.

- Factory overheads are 20% of the prime cost
- 10% of the output was rejected and a sum of `5,000 was realized on sale of scrap.
- 10% of the finished product was found to be defective and the defective products were rectified at an additional expenditure which is equivalent to 20% of proportionate direct wages.
- The total output was 8,000 units during the month.

You are required to prepare a cost sheet for the above period showing the:

(i) Cost of raw material consumed
(ii) Prime cost
(iii) Work cost
(iv) Cost of production
(v) Cost of sales

Ans. (i) ₹2,30,000; (ii) ₹4,04,000; (iii) ₹5,41,960; (iv) ₹5,36,960; (v) ₹5,81,960.

9. Following costs were incurred in producing 800 MT of Rods:

Materials	₹2,80,000
Labour	₹1,00,000
Processing Charges	₹1,00,000
Total costs	₹4,80,000

Of the total output, 10% was defective and had to be sold at a discount of 10% of the normal price. The scrap arising out of the production realized a sum of ₹8,760. The sale price is calculated to yield 15% profit on sales. You are required to find out the normal price as well as the discounted price of per MT of Rode.

Ans. Normal price = ₹700; Discounted price = ₹630.

10. The managing director of a company seeks your assistance in the matter of fixation of selling price for one of its products called S. The cost structure of product S, the unit selling price of which is ₹45,000 is as under;

Direct Material	50%
Direct Labour	20%
Overhead	30%

An increase of 15% in the cost of material and 25% in the cost of labour is anticipated. These increased costs in relation to the present selling price would cause a 25% decrease in the amount of present profit per unit of S.

You are required to:

(a) Prepare a statement of profit per unit as at present and

(b) Find out the revised selling price to produce the same percentage of profit to sales as before.

Ans. (a) ₹15,000; (b) ₹50,625.

11. In a manufacturing company, factory overheads are charged as fixed percentage basis on direct labour and office overheads are charged on the basis of percentage of factory cost. The following information are available related to the year ending 31st March:

	Product A	Product B
Direct materials	₹19,000	₹15,000
Direct Labour	₹15,000	₹25,000
Sales	₹60,000	₹80,000
Profit	25% on cost	25% on sales price

You are required to find out:

(a) The percentage of factory overheads on direct labour

(b) The percentage of office overheads on factory cost

Ans. (a) 40%; (b) 20%.

12. SK Ltd. engaged in job work, has completed all jobs in hand on 29 November, except Job No. 415. The cost sheet on 29 November showed direct material and direct labour costs of ₹40,000 and ₹30,000, respectively, as having been incurred on Job No. 415.

The costs incurred by the business on 30 November the last day of the month, were as follows:

Direct materials (Job 415)	₹2,000
Direct labour (Job 415)	₹8,000
Indirect labour	₹2,000
Miscellaneous factory overheads	₹3,000

It is the practice of the business to make the jobs absorb factory overheads on the basis of 120% of direct labour cost. Calculate the cost of work-in-progress of Job No. 415 as on 30th November.

Ans. ₹1,25,600.

13. The following figures are available from the books of SK Co. for the year 31st March:

	₹		₹
Materials:		Profit for the year	12,180
Stock on 1st April	2,000	Selling overhead	10,500
Stock on 31st March	4,000	Factory overhead	9,000
Purchases	20,000	Administration overhead	8,400
Wages	15,000		

(a) Prepare a cost sheet showing prime cost, work cost, cost of production, cost of sales and sales.

(b) In April, the factory receives an order for a job which will require materials ₹2,400 and wages ₹1,500. Ascertain the sale price of the job if the factory intends to earn a profit 10% higher than the percentage of profit earned in year ending on 31st March. Assume that the factory overhead has gone up by 16(2/3)% and selling overhead has gone down by 20% after 31st March. Further assume that factory overhead is recovered as a percentage of the wages and administration and selling overhead as a percentage of works cost.

Ans. (a) Sales = ₹73,080; (b) Sale price = ₹8,455.

14. SK Ltd. provides you the following figures for the year 2022-23:

Direct Material	₹3,20,000
Direct wages	₹8,00,000
Production overheads (25% variable)	₹4,80,000
Administration overheads (75% fixed)	₹1,60,000
Selling and Distribution overheads (2/3 fixed)	₹2,40,000
Sales @ ₹125 per unit	₹25,00,000

For the year 2023-24, it is estimated that:

(a) Output and sales quantity will increase by 20% by incurring additional advertisement expenses of ₹45,200

(b) Material prices will go up 10%

(c) Wage rate will go up by 5% alongwith, increase in overall direct labour efficiency by 12%

(d) Variable overheads will increase by 5%

(e) Fixed production overheads will increase by 33 1/3%.

Required:

(a) Calculate the cost of sales for the year 2022-23 and 2023-24

(b) Find out the selling price for the year 2023-24 if the existing percentage of profit is to be increased by 25%

Ans. (a) ₹20,00,000; ₹24,30,000; (b) ₹132.89.

15. A factory incurred the following expenditure during the year:

		₹
Direct material consumed		12,00,000
Manufacturing wages		7,00,000
Manufacturing overheads:		
Fixed	3,60,000	
Variable	2,50,000	6,10,000
		25,10,000

In the next year, following changes are expected in production and cost of production.

(a) Production will increase due to recruitment of 60% more workers in the factory.
(b) Overall efficiency will decline by 10% on account of recruitment of new workers.
(c) There will be an increase of 20% in fixed overhead and 60% in variable overhead.
(d) The cost of direct material will be decreased by 6%.
(e) The company desire to earn a profit of 10% on selling price.

Ascertain the cost of production and selling price.

Ans. COP = ₹37,52,320; Selling price = ₹41,69,244.

16. M/s Areeba Private Limited has a normal production capacity of 36,000 units of toys per annum. The estimated costs of production are as under: **[May 2019]**

(i) Direct Material ₹40 per unit
(ii) Direct Labour ₹30 per unit (subject to a minimum of ₹48,000 p.m.)
(iii) Factory Overheads:
  (a) Fixed ₹3,60,000 per annum
  (b) Variable ₹10 per unit
  (c) Semi-variable ₹1,08,000 per annum up to 50% capacity and additional ₹46,800 for every 20% increase in capacity or any part thereof
(iv) Administrative Overheads ₹5,18,400 per annum (fixed)
(v) Selling overheads are incurred at ₹8 per unit
(vi) Each unit of raw material yields scrap which is sold at the rate of ₹5 per unit
(vii) In year 2019, the factory worked at 50% capacity for the first three months but it was expected that if would work at 80% capacity for the remaining nine months.
(viii) During the first three months, the selling price per unit was ₹145

You are required to:

(i) Prepare a cost sheet showing Prime Cost, Works Cost, Cost of Production and Cost of sales
(ii) Calculate the selling price per unit for remaining nine months to achieve the total annual profit of ₹8,76,600.

Ans. (i) COS = ₹6,29,100; ₹26,02,800; (ii) ₹160.

17. XYZ a manufacturing firm, has revealed following information for September, 2019:

[Nov – 2019]

	1st September	30th September
	₹	₹
Raw Materials	2,42,000	2,92,000
Works-in-progress	2,00,000	5,00,000

The firm incurred following expenses for a targeted production of 1,00,000 units during the month:

	₹
Consumable Stores and spares of factory	3,50,000
Research and development cost for process improvements	2,50,000
Quality control cost	2,00,000
Packing cost (secondary) per unit of goods sold	2
Lease rent of production asset	2,00,000
Administrative Expenses (General)	2,24,000
Selling and distribution Expenses	4,13,000
Finished goods (opening)	Nil
Finished goods (closing)	5,000 units

Defective output which is 4% of targeted production, realizes ₹61 per unit. Closing stock is valued at cost of production (excluding administrative expenses). Cost of goods sold, excluding administrative expenses amounts to ₹78,26,000. Direct employees' cost is ½ of cost of material consumed. Selling price of the output is ₹110 per unit.

You are required to:

(i) Calculate the value of material purchased

(ii) Prepare cost sheet showing the profit earned by the firm

Ans. (i) ₹52,50,000; (ii) 13,65,000.

18. SK ltd. has capacity to produce 1,00,000 units of product every month. Its work cost at varying level of production is as under: **[SM, MTP – Nov 2020]**

Level	Work Cost per unit
10%	400
20%	390
30%	380
40%	370
50%	360
60%	350
70%	340
80%	330
90%	320
100%	310

Its fixed administration expenses amount to ₹1,50,000 and fixed marketing expenses amount to ₹2,50,000 per month respectively. The variable distribution cost amount to ₹30 per unit.

It can market 100% of its output at ₹500 per unit provided it incurs the following further expenditure:

(a) It gives gift items costing ₹30 per unit sale;

(b) It has lucky draws every month giving the 1st prize of ₹50,000, 2nd prize of ₹25,000, 3rd prize of ₹10,000 and three consolation prizes of ₹5,000 each to customers buying the product.

(c) It spends ₹1,00,000 on refreshments served every month to its customers;

(d) It sponsors a television programme every week at a cost of ₹20,00,000 per month

It can market 30% of its output at ₹550 per unit without incurring any of the expenses referred to in (a) to (d) above. Advise the company on its course of action.

Ans. Profit at 30% level = ₹38,00,000; Profit at 100% level = ₹1,04,00,000.

19. SK Company manufactures X and Y in one standard size of tin retailing at ₹12.00 and ₹13.30 respectively. Following information is supplied to you:

Opening stock:

X	2,400 tins
Y	8,000 tins

Closing Stock:

X	5,400 tins
Y	3,000 tins

Sales:

X	72,000 tins
Y	30,000 tins

Direct materials:

A	₹2,46,000
B	₹1,20,000

Direct wages	₹2,04,000
Production overhead	₹3,06,000
Administration and selling overhead	₹1,02,000

The opening stock of X and Y was valued at its production cost. The cost of raw materials 'A' for Y is 10 per cent higher than that for X, but there is no difference in the cost of material B. Direct wages for Y are 8 per cent higher than those of X and production overheads are considered to vary with direct wages. Administration and selling overhead is absorbed at a uniform rate of per unit sold. Prepare a statement to show the cost and profit per unit.

Ans. Product X – cost = ₹9.60; profit = ₹2.40; Product Y – cost = ₹10.24; profit = ₹3.06

PRACTICE QUESTIONS

20. Calculate (a) Cost of raw-materials consumed; (b) Total cost of production; (c) Cost of goods sold and (d) The amount of profit from the following particulars:

	Amount (₹)
Opening Stock : Raw-materials	5,000
Finished Goods	4,000
Closing Stock : Raw-materials	4,000
Finished goods	5,000
Raw-materials purchased	50,000
Wages paid to labourers	20,000
Chargeable Expenses	2,000
Rent, Rates and taxes	5,000
Power	2,400
Factory heating and lighting	2,000
Factory insurance	1,000
Experimental expenses	500
Sale of wastage	200
Office management salaries	4,000
Office printing and stationery	200
Salaries of salesman	2,000
Commission of travelling agents	1,000
Sales	**1,00,000**

Ans. (a) ₹51,000; (b) ₹83,700; (c) ₹82,700; (d) 10,100.

21. Find profit by drawing a cost sheet with the following information for the month of June:

	Amount (₹)
Opening Stock : Raw materials	1350
Finished goods	2500
Closing Stock : Raw materials	750
Finished goods	1500
Raw material purchased	20000
Wages paid to labourers	8000
Direct Expenses	1250
Experimental expenses	450
Factory printing and stationery	350
Rent – Factory – 250	
Office – 120	370
Wages for supervisor	1000
Interest paid	1200
Dividend received	300
Lighting – Office	125
Audit fees	150
Bank Charges	500
Cost of samples	100
Income tax	1000

Telephone expenses	600
Advertising	1250
Cash discount	800
Market research expenses	550
Salary of godown-keepers	175
Travelling expenses	750
Commission of travelling agents	500
Sales	**50000**

Ans. Profit = ₹12,280; Net profit = ₹11,080.

22. The following information has been obtained from the records of SK Ltd. for the period from April 1 to April 30, 2022. **[SM]**

	On April 1, 2022 (₹)	On April 30, 2022 (₹)
Cost of raw materials	60,000	50,000
Cost of work-in-process	12,000	15,000
Cost of stock of finished goods	90,000	1,10,000
Purchases of raw materials during April 2022		4,80,000
Wages paid		2,40,000
Factory overheads		1,00,000
Administration overheads (related to production)		50,000
Selling & distribution overheads		25,000
Sales		10,00,000

Prepare a statement giving the following information:

(a) Raw material consumed
(b) Prime cost
(c) Factory cost
(d) Cost of goods sold and
(e) Net profit

Ans. (a) ₹4,90,000; (b) ₹7,30,000; (c) ₹8,27,000; (d) ₹8,57,000; (e) ₹1,18,000.

23. The following details are available from the books of SK Ltd. For the year ending 31st March:

[RTP-Nov 2020]

Particulars	Amount (₹)
Purchase of raw materials	84,00,000
Consumable materials	4,80,000
Direct wages	60,00,000
Carriage inward	1,72,600
Wages to foreman and store keeper	8,40,000
Other indirect wages to factory staffs	1,35,000

Expenditure on research and development on new production technology	9,60,000
Salary to accountants	7,20,000
Employer's contribution to EPF & ESI	7,20,000
Cost of power & fuel	28,00,000
Production planning office expenses	12,60,000
Salary to delivery staffs	14,30,000
Income tax for the assessment year	2,80,000
Fees to statutory auditor	1,80,000
Fees to cost auditor	80,000
Fees to independent directors	9,40,000
Donation to PM-national relief fund	1,10,000
Value of sales	2,82,60,000
Position of inventories as on 01-04 of last year:	
- Raw material	6,20,000
- WIP	7,84,000
- Finished goods	14,40,000
Position of inventories as on 31-03 of current year:	
- Raw Material	4,60,000
- WIP	6,64,000
- Finished goods	9,80,000

From the above information prepare a cost sheet for the year ended 31st March.

Ans. COP = ₹2,20,47,600; COS = ₹2,58,57,600; Profit = ₹24,02,400.

24. The following particulars relating to the year have been taken from the books of a company:

Stock on 1st January:	**Kg**	₹
Raw materials	2,000	2,000
Finished mixture	500	1,750
Factory stores		7,250
Purchases:		
Raw materials	1,60,000	1,80,000
Factory stores		24,250
Sales:		
Finished mixture	1,53,050	9,18,000
Factory Scrap		8,170
Factory wages		1,78,650
Power		30,400
Depreciation on machinery		18,000
Salaries:		
Factory		72,220

Office		37,220
Selling		41,500
Expenses:		
Direct		18,500
Office		18,200
Selling		18,000
Stock on 31st December:		
Raw materials	1,200	?
Finished mixture	450	?
Factory stores		5,550

The stock of finished mixture at the end of the year is to be valued at the factory cost of the mixture for that year. The purchase price of raw materials remained unchanged throughout the year. Prepare a statement giving the maximum possible information about cost and its break-up for the year.

Ans. COP = ₹5,16,200; COGS = ₹5,16,408; COS = ₹6,31,328; Profit = ₹2,86672.

25. Following information relate to a manufacturing concern for the year ended 31st March, 2018:

	₹
Raw Material (opening)	2,28,000
Raw Material (closing)	3,05,000
Purchases of Raw Material	42,25,000
Freight Inwards	1,00,000
Direct wages paid	12,56,000
Direct wages-outstanding at the end of the year	1,50,000
Factory overheads	20% of prime cost
Work-in-progress (opening)	1,92,500
Work-in-progress (closing)	1,40,700
Administrative Overheads (related to production)	1,73,000
Distribution Expenses	₹16 per unit
Finished Stock (opening) – 1217 Units	6,08,500
Sale of scrap of material	8,000

The firm produced 14,000 units of output during the year. The stock of finished goods at the end of the year is valued at cost of production. The firm sold 14,153 units at a price of ₹618 per unit during the year. Prepare cost sheet of the firm.

Ans. COP = ₹70,00,000; Profit = ₹14,43,606.

26. The following data are available from the books and records of A Ltd. for the month of April 2022:

[May – 2022]

Particulars	Amount (₹)
Stock of raw materials on 1st April 2022	10,000
Raw material purchased	2,80,000
Manufacturing wages	70,000

Depreciation on plant	15,000
Expenses paid for quality control check activities	4,000
Lease rent of production assets	10,000
Administrative overheads (Production)	15,000
Expenses paid for pollution control and engineering & maintenance	1,000
Stock of raw materials on 30th April 2022	40,000
Primary packing cost	8,000
Research & development cost (Process related)	5,000
Packing cost for redistribution of finished goods	1,500
Advertisement expenses	1,300

Stock of finished goods as on 1st April 2022 was 200 units having a total cost of ₹28,000. The entire opening stock of finished goods has been sold during the month. Production during the month of April, 2022 was 3,000 units. Closing stock of finished goods as on 30th April, 2022 was 400 units.

You are required to:

(I) Prepare a cost sheet for the above period showing the:
- (i) Cost of raw material consumed
- (ii) Prime cost
- (iii) Factory cost
- (iv) Cost of production
- (v) Cost of goods sold
- (vi) Cost of sales

(II) Calculate selling price per unit, if sale is made at profit of 20% on sales.

Ans. (I) ₹2,50,000; ₹3,20,000; ₹3,46,000; ₹3,78,000; ₹3,55,600; ₹3,58,400; (II) ₹160.

27. The following data relates to the manufacture of a standard product during the month of April: **[SM]**

Raw materials (₹)	1,80,000
Direct wages (₹)	90,000
Machine hours worked (hours)	10,000
Machine hour rate (per hour)	8
Administration overheads (general) (₹)	35,000
Selling overheads	₹5 per unit
Units produced	4,000
Units Sold	3,600
Selling price per unit (₹)	125

You are required to prepare a cost sheet in respect of the above, showing:

(a) Cost per unit of goods produced

(b) Profit for the month

Ans. (a) ₹87.50; (b) ₹82,000.

28. From the following particulars, you are required to prepare monthly cost sheet of SK Ltd.:

[SM]

	Amount (₹)
Opening Inventories	
- Raw materials	12,00,000
- Work-in-process	18,00,000
- Finished goods (10,000 units)	9,60,000
Closing inventories	
- Raw materials	14,00,000
- Work-in-process	16,04,000
- Finished goods	?
Raw material purchased	1,44,00,000
GST paid on raw materials purchased (ITC available)	7,20,000
Wages paid to production workers	36,64,000
Expenses paid for utilities	1,45,600
Office and administration expenses paid	26,52,000
Travelling allowance paid to office staffs	1,21,000
Selling expenses	6,46,000

Machine hours worked – 21,600 hours

Machine hour rate - ₹8.00 per hour

Units sold – 1,60,000

Units produced 1,94,000

Desired profit – 15% on sales

Ans. COP = ₹1,83,78,400; Profit = ₹32,80,461.

29. From the following data of Arnav Metallic Ltd., CALCUALTE cost of production:

[RTP May – 2018 & Nov – 2018]

		Amount (₹)
(i)	Repair & maintenance paid for plant & machinery	9,80,500
(ii)	Insurance premium paid for plant & machinery	96,000
(iii)	Raw material purchased	64,00,000
(iv)	Opening stock of raw materials	2,88,000
(v)	Closing stock of raw materials	4,46000
(vi)	Wages paid	23,20,000
(vii)	Value of opening Work-in-Progress	4,06,000
(viii)	Value of closing Work-in-Progress	6,02,100

		Amount (₹)
(ix)	Quality control cost for the products in manufacturing process	86,000
(x)	Research & development cost for improvement in production process	92,600
(xi)	Administrative cost for: - Factory & production - Others	 9,00,000 11,60,000
(xii)	Amount realized by selling scrap generated during the manufacturing process	9,200
(xiii)	Packing cost necessary to preserve the goods for further processing	10,200
(xiv)	Salary paid to director (Technical)	8,90,000

Ans. ₹1,05,22,000.

30. G Ltd. manufactures leather bags for office and school purpose. The following information is related with the production of leather bags for the month of September 2021:

[Dec – 21, RTP – Nov 2019]

(i) Leather sheets and cotton cloths are the main inputs, and the estimated requirement per bag is two meters of leather sheets and one meter of cotton cloth. 2,000 meter of leather sheets and 1,000 meter of cotton cloths are purchased at ₹3,20,000 and ₹15,000 respectively. Freight paid on purchases is ₹8,500.

(ii) Stitching and finishing need 2,000 man hours at ₹80 per hour.

(iii) Other direct cost of ₹10 per labour hour is incurred.

(iv) G Ltd. has 4 machines at a total cost of ₹22,00,000. Machine has a life of 10 years with a scrape value of 10% of the original cost. Depreciation is charged on straight line method.

(v) The monthly cost of administrative and sales office staffs are ₹45,000 and ₹72,000 respectively. G Ltd. pays ₹1,20,000 per month as rent for a 2,400 sq. feet factory premises. The administrative and sales office occupies 240 sq. feet and 200 sq. feet respectively of factory space.

(vi) Freight paid on delivery of finished bags is ₹18,000.

(vii) During the month 35 kg of leather and cotton cuttings are sold at ₹150 per kg.

(viii) There is no opening and closing stocks for input materials. There is 100 bags in stock at the end of the month.

You are required to prepare a cost sheet in respect of above for the month of September 2021 showing:

(a) Cost of raw material consumed

(b) Prime cost

(c) Works/Factory cost

(d) Cost of production

(e) Cost of goods sold

(f) Cost of sales

Ans. (a) ₹3,43,500; (b) ₹5,23,500; (c) ₹6,38,000; (d) ₹6,32,750; (e) ₹5,69,475; (f) ₹7,26,475.

31. From the following figures, calculate cost of production and profit for the month of March 2018:
[RTP – May 2018]

	Amount (₹)		Amount (₹)
Stock on 1st March, 2018		Purchase of raw materials	28,57,000
- Raw materials	6,06,000	Sale of finished goods	1,34,00,000
- Finished goods	3,59,000	Direct wages	37,50,000
Stock on 31st March, 2018		Factory expenses	21,25,000
- Raw materials	7,50,000	Office & Administration exp.	10,34,000
- Finished goods	3,09,000	Selling & Distribution exp.	7,50,000
Work-in-process:		Sale of scrap	26,000
- On 1st March, 2018	12,56,000		
- On 31st March, 2018	14,22,000		

Ans. COP = ₹83,96,000; Profit = ₹31,70,000.

32. PNME Ltd. manufactures two types of masks – 'disposal Masks' and 'Cloth Masks'. The cost data for the year ended 31st March, 2022 is as follows: **[Nov – 2022]**

	₹
Direct materials	12,50,000
Direct wages	7,00,000
Production Overhead	4,00,000
Total	23,50,000

It is further ascertained that:

- Direct material cost per unit of cloth Mask was twice as much of direct material cost per unit od disposal Mask
- Direct wages per unit for Disposal Mask were 60% of those for Cloth Mask
- Production overhead per unit was at same rate for both the types of the masks
- Administration overhead was 50% of Production overhead for each type of mask
- Selling cost was ₹2 per cloth mask
- Selling price was ₹35 per unit of cloth mask
- No. of units of cloth masks sold – 45,000
- No. of units of Production of
  - Cloth Masks : 50,000
  - Disposal Masks : 1,50,000

You are required to prepare a cost sheet for cloth masks showing:

(i) Cost per unit and total cost

(ii) Profit per unit and total cost

33. X Ltd. manufactures two types of pens 'Super Pen' and 'Normal Pen'. The cost data for the year ended 30th September, 2019 is as follows: **[Nov – 2020]**

	(₹)
Direct Materials	8,00,000
Direct Wages	4,48,000
Production Overhead	1,92,000
Total	14,40,000

It is further ascertained that:

(1) Direct materials cost in Super Pen was twice as much of direct material in Normal Pen.

(2) Direct wages for Normal Pen were 60% of those for super Pen.

(3) Production overhead per unit was at same rate for both the types.

(4) Administration overhead was 200% of direct labour for each.

(5) Selling cost was ₹1 per Super pen.

(6) Production and sales during the year were as follows:

Production		Sales	
	No. of units		**No. of units**
Super Pen	40,000	Super Pen	36,000
Normal Pen	1,20,000		

Selling price was ₹30 per unit for Super Pen.

Prepare a Cost Sheet for 'Super Pen' showing

(i) Cost per unit and Total Cost

(ii) Profit per unit and Total Profit

Ans. (i) ₹23.09; ₹8,31,200; (ii) ₹6.91; ₹2,48,800.

34. M Ltd. is producing a single product and may expand into product diversification in next one to two years. M Ltd. is amongst a labour-intensive company where majority of processes are done manually. Employee cost is a major cost element in the total cost of the company. The company conventionally uses performance parameters Earnings per manshift (EMS) to measure cost paid to an employee for a shift of 8 hours, and Output per manshift (OMS) to measure an employee's output in a shift of 8 hours. **[MTP May 2024]**

The Chief Manager (Finance) of the company has emailed you few information related to the last month. The email contains the following data related to the last month:

During the last month, the company has produced 2,34,000 tonnes of output. Expenditures for the last months are:

(i) Raw materials consumed ₹50,00,000

(ii) Power consumed 13,000 Kwh @ ₹8 per Kwh to run the machines for production.

(iii) Diesels consumed 2,000 litres @ ₹93 per litre to run power generator used as alternative or backup for power cuts.

(iv) Wages & salary paid – ₹6,40,00,000
(v) Gratuity & leave encashment paid – ₹64,20,000
(vi) Hiring charges paid for HEMM- ₹30,00,000. HEMM are directly used in production.
(vii) Hiring charges paid for cars used for official purpose – ₹66,000
(viii) Reimbursement of diesel cost for the cars – ₹22,000
(ix) The hiring of cars attracts GST under RCM @5% without credit.
(x) Maintenance cost paid for weighing bridge (used for weighing of final goods at the time of dispatch) – ₹12,000
(xi) AMC cost of CCTV installed at weighing bridge (used for weighing of final goods at the time of dispatch) and factory premises is ₹8,000 and ₹18,000 per month respectively.
(xii) TA/ DA and hotel bill paid for sales manager- ₹36,000
(xiii) The company has 1,800 employees works for 26 days in a month.

You are asked to calculate the followings:

(i) What is the amount of prime cost incurred during the last month:
(a) ₹7,54,20,000 (b) ₹7,57,10,000 (c) ₹7,56,06,000 (d) ₹7,87,10,000

(ii) What is the total and per shift cost of production for last month:
(a) ₹7,87,10,000 and ₹336.37 respectively
(b) ₹7,87,10,000 and ₹1,681.84 respectively
(c) ₹7,87,28,000 and ₹1,682.22 respectively
(d) ₹7,87,28,000 and ₹336.44 respectively

(iii) What is the value of administrative cost incurred during the last month:
(a) ₹92,400 (b) ₹88,000 (c) ₹1,48,400 (d) ₹1,44,000

(iv) What is the value of selling and distribution cost and total cost of sales:
(a) ₹36,000 & ₹7,88,76,400 respectively
(b) ₹56,000 & ₹7,88,76,400 respectively
(c) ₹36,000 & ₹7,88,72,000 respectively
(d) ₹56,000 & ₹7,88,72,000 respectively

(v) What is the value EMS and OMS for the last month:
(a) ₹1,504.70 & 5 tonnes respectively
(b) ₹1,367.52 & 5 tonnes respectively
(c) ₹1,504.70 & 4.37 tonnes respectively
(d) ₹1,367.52 & 4.37 tonnes respectively

Ans. (i) - (d), (ii) - (c), (iii) - (a), (iv) - (b), (v) - (a)

SOLUTION OF PRACTICE QUESTIONS

20.

Cost Sheet

Particulars			Amount (₹)
Opening stock of material			5,000
Add: Purchases of material			50,000
Less: Closing stock of material			(4,000)
		Raw material consumed	**51,000**
Add: Wages			20,000
Add: Direct Expenses			
Chargeable Expenses	2,000		
Power	2,400		4,400
		Prime Cost	**75,400**
Add: Factory overheads			
Rent, rates and taxes	5,000		
Heating & lighting	2,000		
Insurance	1,000		8,000
		GFC/NFC	**83,400**
Add: Experimental expenses			500
Less: Sale of wastage			(200)
		COP	83,700
Add: Opening stock of finished goods			4,000
Less: Closing stock of finished goods			(5,000)
		COGS	**82,700**
Add: Administrative overheads			
Office management salary	4,000		
Office printing and stationary	200		4,200
Add: Selling & Distribution overheads			
Salaries of salesman	2,000		
Commission to travelling agent	1,000		3,000
		Cost of sales	**89,900**
Add: Profit			10,100
		Sales	**1,00,000**

21.

Cost Sheet

Particulars			Amount (₹)
Opening stock of material			1,350
Add: Purchases of material			20,000
Less: Closing stock of material			(750)
		Raw material consumed	**20,600**
Add: Wages			8,000
Add: Direct expenses			1,200
		Prime Cost1	**29,850**
Add: Factory overheads			
Factory printing and stationary	350		
Rent	250		
Wages for supervisor	1,000		1,600
		GFC/NFC	**31,450**
Add: Experimental expenses			450
		COP	**31,900**
Add: Opening stock of finished goods			2,500
Less: Closing stock of finished goods			(1,500)
		COGS	**32,900**
Add: Administrative overheads			
Office rent	120		
Office lighting	125		
Audit fees	150		
Bank charges	500		
Telephone expenses	600		1,495
Add: Selling & Distribution overheads			
Cost of samples	100		
Advertising	1,250		
Market research expenses	550		
Salary of godown-keepers	175		
Travelling expenses	750		
Commission to travelling agent	500		3,325
		Cost of sales	**37,720**
Add: Profit			12,280
		Sales	**50,000**

Net profit = Profit – Interest = 12,280 – 1,200 = 11,080

22.

Statement of Cost & Profit
(for the month of June)

	(₹)
Opening stock of raw materials	60,000
Add: Purchase of raw materials during the month of June	4,80,000
Less Closing stock of raw materials	(50,000)
(a) Raw materials consumed	4,90,000
Add: Direct wages	2,40,000
(b) Prime cost	**7,30,000**
Add: Factory overheads	1,00,000
Work cost	8,30,000
Add: Opening work-in-process	12,000
Less: Closing work-in-process	(15,000)
(c) Factory cost	**8,27,000**
Add: Administration overheads	50,000
Cost of production	8,77,000
Add: Opening stock of finished goods	90,000
Less: Closing stock of finished goods	(1,10,000)
(d) Cost of goods sold	**8,57,000**
Add: Selling & distribution overheads	25,000
Cost of sales	8,82,000
(e) Net profit	**1,18,000**
Sales	10,00,000

23. Statement of Cost of SK Ltd. for the year ended 31st March

Particulars		Amount (₹)
Opening stock of raw material		6,20,000
Add: Material purchased		84,00,000
Less: Closing stock of raw material		(4,60,000)
Add: Carriage inward		1,72,600
Add: Consumable materials		4,80,000
	Raw material consumed	92,12,600
Add: Direct labour cost		
- Direct wages	60,00,000	

Particulars		Amount (₹)
- Employer's contribution towards PF & ESIS	7,20,000	67,20,000
Add: Direct expenses		
Cost of power & Fuel		28,00,000
Prime Cost		1,87,32,600
Add: Factory Overheads		
- Wages to foreman and store keeper	8,40,000	
- Other indirect wages to factory staff	1,35,000	9,75,000
Gross Factory Cost		1,97,07,600
Add: Opening WIP		7,84,000
Less: Closing WIP		(6,64,000)
Net Factory Cost		1,98,27,600
Add: Research & development cost		9,60,000
Add: Production planning office expenses		12,60,000
Cost of Production		2,20,47,600
Add: Opening stock of finished goods		14,40,000
Less: Closing stock of finished goods		(9,80,000)
Cost of goods sold		2,25,07,600
Add: Administrative overheads		
- Salary to accountants	7,20,000	
- Fee to statutory auditor	1,80,000	
- Fee to cost auditor	80,000	
- Fee to independent directors	9,40,000	19,20,000
Add: Selling overheads & Distribution overheads		
- Salary to delivery staff		14,30,000
Cost of Sales		2,58,57,600
Add: Profit (Balancing figure)		24,02,400
Sales		2,82,60,000

24.

Cost Sheet

Particulars	Amount (₹)
Opening stock of material	2,000
Add: Material purchases	1,80,000
Less: Closing stock of material	(1,350)
Raw material consumed	**1,80,650**
Add: Wages	1,78,650

Particulars			Amount (₹)
Add: Direct expenses			
Direct expenses	18,500		
Power	30,400		48,900
		Prime Cost	**4,08,200**
Add: Factory overheads			
Depreciation	18,000		
Factory salary	72,220	72,220	
Factory stores consumed (7,250 + 24,250 – 5,550)		25,950	1,16,170
		Factory cost	**5,24,370**
Less: Sales of factory scrap			(8,170)
		Cost of production	**5,16,200**
Add: Opening stock of finished mixture			1,750
Less: Closing stock of finished mixture [(5,24,370 × 450) ÷ 1,53,000]			(1,542)
		Cost of goods sold	**5,16,408**
Add: Administration overheads			
Office salaries	37,220		
Office expenses	18,200		55,420
Add: Selling & distribution overheads			
Selling salary	41,500		
Selling expenses	18,000		59,500
		Cost of sales	**6,31,328**
Add: Profit (Balancing figure)			2,86,672
		Sales	9,18,000

Units Produced = 1,53,050 + 450 – 500 = 1,53,000

25. Cost Sheet for the year ended 31st March 2018

Particulars	Amount (₹)
Raw material purchased	42,25,000
Add: Freight inwards	1,00,000
Add: Opening value of raw material	2,28,000
Less: Closing value of raw material	(3,05,000)
Less: Sale of scrap of material	(8,000)
Direct Material Consumed	42,40,000
Add: Direct Wages (12,56,000 + 1,50,000)	14,06,000

Particulars	Amount (₹)
Add: Direct Expenses	-
Prime Cost	56,46,000
Add: Factory Overheads (56,46,000 × 20%)	11,29,200
GFC	67,75,200
Add: Opening stock of WIP	1,92,500
Less: Closing stock of WIP	(1,40,700)
NFC	68,27,000
Add: Administrative Overheads (related to production)	1,73,000
COP	70,00,000
Add: Opening stock of FG	6,08,500
Less: Closing stock of FG	(5,32,000)
Cost of goods sold	70,76,500
Add: Distribution expenses (16 × 14,153)	2,26,448
Cost of Sales	73,02,948
Add: Profit (Bal. fig.)	14,43,606
Sales (618 × 14,153)	87,46,554

26.

(I) Cost Sheet

Particulars		Amount (₹)
Opening stock of raw material		10,000
Add: Raw material purchased		2,80,000
Less: Closing stock of raw material		(40,000)
Raw material consumed		2,50,000
Add: Manufacturing wages		70,000
Prime cost		3,20,000
Add: Factory overheads		
Depreciation on plant	15,000	
Lease rent of production assets	10,000	
Expenses for pollution control	1,000	26,000
Gross Factory Cost/ Net Factory cost		3,46,000
Add: Expenses paid for quality control check activities		4,000
Add: Administrative overheads (Production)		15,000
Add: Primary packing cost		8,000
Add: Research & development cost (Process related)		5,000
Cost of production		3,78,000
Add: Opening stock of finished goods		28,000
Less: Closing stock of finished goods (378000/3000 ×400)		(50,400)

Cost of goods sold	3,55,600
Add: Packing cost for redistribution of finished goods	1,500
Add: Advertisement expenses	1,300
Cost of sales	3,58,400

(II) Statement of calculation of selling price

Particulars	Amount (₹)
Cost of sales	3,58,400
Units sold (200 + 3,000 – 400)	2,800
Cost per unit	128
Add: Profit per unit [128 × (20/80)]	32
Selling price per unit	160

27. **Statement of cost and profit**

Particulars		Amount (₹)
Direct material		1,80,000
Add: Direct Labour		90,000
Add: Direct Expenses		
	Prime Cost	2,70,000
Add: Factory Overheads (10,000 × 8)		80,000
	GFC/NFC/COP	3,50,000
Add: Opening stock of FG		
Less: Closing stock of FG (400 × 87.50)		(35,000)
	Cost of goods sold	3,15,000
Add: Administration overheads		35,000
Add: Selling & Distribution overheads (5 × 3,600)		18,000
	Cost of Sales	3,68,000
Add: Profit		82,000
	Sales(125 × 3,600)	4,50,000

Cost per unit of goods produced = $\left(\frac{₹315000}{3600}\right)$ = ₹87.50 per unit

28.

Cost sheet of SK Ltd. for month of .....
Units produced – 1,94,000
Units sold – 1,60,000

Particulars	(₹)	Cost per unit (₹)
Raw materials purchased	1,44,00,000	
Add: Opening value of raw materials	12,00,000	
Less: Closing value of raw materials	(14,00,000)	

Particulars	(₹)	Cost per unit (₹)
Materials consumed	1,42,00,000	73.19
Wages paid to production workers	36,64,000	18.89
Expenses paid for utilities	1,45,600	0.75
Prime Cost	**1,80,09,600**	**92.83**
Factory overheads (₹ 8 × 2,600 hours)	1,72,800	
Add: Opening value of W-I-P	18,00,000	
Less: Closing value of W-I-P	(16,04,000)	
Cost of Production	**1,83,78,400**	**94.73**
Add: Value of opening finished stock	9,60,000	
Less: Value of closing finished stock (₹ 94.73 × 44,000)	(41,68,120)	
Cost of Goods Sold	**1,51,70,280**	**94.81**
Office and administration expenses paid	26,52,000	16.58
Travelling allowance paid to office staffs	1,21,000	0.75
Selling expenses	6,46,000	4.04
Cost of Sales	1,85,89,280	116.18
Add: Profit	32,80,461	20.50
Sales	**2,18,69,741**	**136.68**

29. **Statement of cost of production**

Particulars	Amount (₹)
Opening stock of raw material	2,88,000
Add: Raw material purchased	64,00,000
Less: Closing stock of raw material	(4,46,000)
Raw material consumed	62,42,000
Wages paid	23,20,000
Prime cost	85,62,000
Add: Repair & Maintenance cost of plant & machinery	9,80,500
Add: Insurance premium paid for plant & machinery	96,000
Gross factory cost	96,38,500
Add: Opening value of WIP	4,06,000
Less: Closing value of WIP	(6,02,100)
Net Factory cost	94,42,400
Add: Quality control cost	86,000
Add: Research & development cost	92,600
Add: Administrative overheads related with factory and production	9,00,000
Add: Primary packing cost	10,200
Less: Amount realized by selling scrap	(9,200)
Cost of production	1,05,22,000

Note:

(1) Other administrative overhead does not form part of cost of production.

(2) Salary paid to director (technical) is an administrative cost.

30. Number of bags manufactured = 1,000 units

Particulars		Amount (₹)
Leather sheets		3,20,000
Add: Cotton cloths		15,000
Add: Freight paid on purchase		8,500
Direct material consumed		3,43,500
Add: Direct wages (80 × 2,000)		1,60,000
Add: Direct expenses (10 × 2,000)		20,000
	Prime Cost	5,23,500
Add: Factory overheads:		
- Depreciation on machine [(22,00,000 × 90%) ÷ 120]	16,500	
- Factory rent [1,20,000 × (1,960 ÷ 2,400)]s	98,000	1,14,500
	GFC/NFC	6,38,000
Less: Realizable value of cuttings (150 × 35)		(5,250)
	Cost of Production	6,32,750
Add: Opening stock of bags		-
Less: Closing stock of bags		(63,275)
	Cost of Goods Sold	5,69,475
Add: Administrative Overheads		
- Staff salary	45,000	
- Rent [1,20,000 × (240 ÷ 2,400)]	12,000	57,000
Add: Selling and Distribution Overheads		
- Staff salary	72,000	
- Rent [1,20,000 × (200 ÷ 2,400)]	10,000	
- Freight paid on delivery of bags	18,000	1,00,000
	Cost of Sales	7,26,475

31.

Cost Sheet

Particulars		Amount (₹)
Opening stock of raw material		6,06,000
Add: Purchases		28,57,000
Less: Closing stock of raw material		(7,50,000)
	Raw Material Consumed	27,13,000
Add: Direct wages		37,50,000
	Prime Cost	64,63,000
Add: Factory expenses		21,25,000
	Gross Factory Cost	85,88,000

Add: Opening value of WIP	12,56,000
Less: Closing value of WIP	(14,22,000)
Net Factory Cost	84,22,000
Less: Sale of scrap	(26,000)
Cost of Production	83,96,000
Add: Value of opening finished goods	3,59,000
Less: Value of closing finished goods	(3,09,000)
Cost of Goods Sold	84,46,000
Add: Office and administration expenses	10,34,000
Add: Selling & Distribution expenses	7,50,000
Cost of Sales	1,02,30,000
Add: Profit (balancing figure)	31,70,000
Sales	1,34,00,000

32. Preparation of Cost Sheet for Cloth Masks

No. of units produced = 50,000 units

No. of units sold = 45,000 units

Particulars	Per unit (₹)	Total (₹)
Direct materials (Working note (i)	10.00	5,00,000
Direct wages (Working note (ii))	5.00	2,50,000
Prime cost	15.00	7,50,000
Production overhead (Working note (iii))	2.00	1,00,000
Factory Cost	17.00	8,50,000
Administration Overhead* (50% of Production Overhead)	1.00	50,000
Cost of production	18.00	9,00,000
Less: Closing stock (50,000 units – 45,000 units)	–	(90,000)
Cost of goods solid i.e. 45,000 units	18.00	8,10,00
Selling cost	2.00	90,000
Cost of sales/Total cost	20.00	9,00,000
Profit	15.00	6,75,000
Sales value (₹ 35 × 45,000 units)	35.00	15,75,000

Working Notes:

(i) Direct material cost per unit of Disposable Mask = M

Direct material cost per unit of Cloth Mask = 2M

Total Direct Material cost = 2M × 50,000 units + M × 1,50,000 units

Or, 12,50,000 = 1,00,000 M + 1,50,000 M

$$\text{Or, M} = \frac{₹12,50,000}{2,50,000} = ₹5$$

Therefore, Direct material Cost per unit of Cloth Mask = 2 × ₹5 = ₹10

(ii) Direct wages per unit for Cloth Mask = W

Direct wages per unit for Disposable Mask = 0.6 W

So, (W × 50,000) + (0.6 × 1,50,000) = ₹7,00,000
W = ₹5 per unit
Therefore, Direct material Cost per unit of Cloth Mask = ₹5

(iii) Production overhead per unit $\frac{₹4,00,000}{(50,000+1,50,000)} = ₹5$

Production overhead for Cloth Mask = ₹2 × 50,000 units = ₹1,00,000
*Administration overhead is related to production overhead in the question and hence to be considered in cost of production only.

33.

Cost Sheet

Particulars	Super Pen	
	Total	Per Unit
Direct Material $\left[\frac{(40,000\times 2)\times 800,000}{(40,000\times 2)+(1,20,000\times 1)}\right]$	3,20,000	8.00
Direct Wages $\left[\frac{(40,000\times 1)\times 4,48,000}{(40,000\times 1)+(1,20,000\times 0.60)}\right]$	1,60,000	4.00
Prime Cost	4,80,000	12.00
Production Overheads $\left[\frac{40,000\times 1,92,000}{40,000\times 1,20,000}\right]$	48,000	1.20
Factory Cost	5,28,000	13.20
Add: Opening Stock	-	-
Less: Closing Stock [(40,000 – 36,000) × 13.20]	52,800	13.20
Cost of goods sold	4,75,200	13.20
Administration Overheads (200% × 1,60,000)	3,20,000	8.89
Add: Selling & Distribution (36,000 × 1)	36,000	1.00
Cost of Sales	8,31,200	23.09
Profit	2,48,800	6.91
Sales	10,80,000	30.00

34. (i) D
(ii) C Please refer cost sheet below for cost of production Cost of production per manshift = Cost of production ÷ Total manshift
₹7,87,28,000 + 46,800 = ₹1,682.22
(iii) A Car hire charges including GST @5%, please refer the cost sheet
(iv) B Selling and distribution cost includes the following:

Maintenance cost for weighing bridge	12,000
AMC cost of CCTV installed at weigh bridge	8,000
TA/ DA & hotel bill of sales manager	36,000
	56,000

For Cost of Sale please refer the cost sheet

(v) A Manshift = 1,000 employees × 26 days = 46,800 manshifts

Computation of earnings per manshift (EMS):

$$EMS = \frac{\text{Total employee benefits paid}}{\text{Manshift}}$$

$$= \frac{₹7,04,20,000}{46,800} = ₹1504.70$$

Computation of Output per manshift (OMS):

$$OMS = \frac{\text{Total Output/ Production}}{\text{Manshift}}$$

$$= \frac{2,34,000 \text{ Tonne}}{46,800} = 5 \text{ tonnes}$$

Workings

Cost Sheet of M Ltd. for the last month

Particulars	Amount (₹)	Amount (₹)
Materials consumes		50,00,000
Wages & Salary	6,40,00,000	
Gratuity & leave encashment	64,20,000	7,04,20,000
Power cost (13,000 kwh × ₹8)	1,04,000	
Diesel cost (2,000 ltr × ₹93)	1,86,000	2,90,000
HEMM hirin charges		30,00,000
Prime Cost		**7,87,10,000**
AMC cost of CCTV installed at factory premises		18,000
Cost of Production/Cost of Goods Sold		**7,87,28,000**
Hiring charges of cars	66,000	
Reimbursement of diesel cost	22,000	
	88,000	
Add: GST @5% on RCM basis	4,400	92,400
Maintenance cost for weighing bridge	12,000	
AMC cost of CCTV installed at weigh bridge	8,000	20,000
TA/DA & hotel bill of sales manager		36,000
Cost of Sales		**7,88,76,400**

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