

PAPER 8- COST ACCOUNTING

Paper - 8: COST ACCOUNTING

Full Marks: 100

Time Allowed: 3 Hours

Section-A

1. A. Choose the correct answer from given four alternatives [1×10=10]
- A. Idle time is
- (a) Time spent by workers in factory
 - (b) Time spent by workers in office
 - (c) Time spent by workers off their work
 - (d) Time spent by workers on their job.
- B. Sales Budget is a ...
- (a) Expenditure budget
 - (b) Functional budget
 - (c) Master budget
 - (d) None.
- C. Which of the following are direct expenses?
- (a) The cost of special designs, drawings and layouts
 - (b) The hire of tools or equipment for a particular job
 - (c) Salesman's wages
 - (d) Rent, rates and insurance of a factory.
- D. Variable cost
- (a) Remains fixed in total
 - (b) Remains fixed per unit
 - (c) Varies per unit
 - (d) Nor increase or decrease.
- E. Continuous stock taking is a part of
- (a) ABC analysis
 - (b) Annual stock taking
 - (c) Perpetual inventory
 - (d) None of these.
- F. Integral accounts eliminate the necessity of operating
- (a) Cost Ledger control account
 - (b) Store Ledger control account
 - (c) Overhead adjustment account
 - (d) None of the above.
- G. Directors remuneration and expenses form a part of
- (a) Production overhead
 - (b) Administration overhead
 - (c) Selling overhead
 - (d) Distribution overhead.
- H. CAS 21 stands for
- (a) Capacity determination
 - (b) Joint cost
 - (c) Direct expenses
 - (d) None of the above.

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- I. Cost of service under operating costing is ascertained by preparing
- (a) Cost sheet
 - (b) Process account
 - (c) Job cost sheet
 - (d) Production account.
- J. A flexible budget requires a careful study of
- (a) Fixed, semi-fixed and variable expenses
 - (b) Past and current expenses
 - (c) Overheads, selling and administrative expenses
 - (d) None of the above.

(B) Match the statement in Column I with the most appropriate statement in Column II:

[1×5 =5]

	Column A		Column B
1.	Which budget shows utilisation of liquid cash	A.	Normal output
2.	Cost of normal loss is borne by	B.	Work in progress
3.	Inherent features of process industry	C.	Treated as part of factory expenses
4.	Captive power plant expense	D.	Appropriations only in financial accounts
5.	Donations	E.	Cash Budget

(C) State whether the following statements are True' or 'False':

[1×5=5]

- (i) Travelling expenses to site is a direct expense.
- (ii) Finance cost shall form part of direct expense.
- (iii) Goodwill written off appears only in cost accounts.
- (iv) Primary packaging cost is included in distribution cost.
- (v) CAS-5 is for Capacity Determination as issued by the Cost Accounting Standards Board (CASB) of the Institute of Cost Accountants of India.

(D) Fill in the blanks suitably:

[1×5=5]

- (i) Wages sheet is prepared by----- department.
- (ii) Ideal time arises only when workers are paid on -----.
- (iii) The formula for computing wages under time rate is-----.
- (iv) Transfer of surplus material from one job or work order is recorded in-----.
- (v) Store ledger is kept and maintained in-----.

Answer:

1. (A) (A) (c)
(B) (b)
(C) (a)
(D) (b)
(E) (c)
(F) (a)
(G) (b)
(H) (d)
(I) (a)
(J) (a)

(B)

	Column A		Column B
1.	Which budget shows utilisation of liquid cash	E	Cash Budget
2.	Cost of normal loss is borne by	A	Normal output
3.	Inherent features of process industry	B	Work in progress
4.	Captive power plant expense	C	Treated as part of factory expenses
5.	Donations	D	Appropriations only in financial accounts

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

- (D) (i) Pay role dept.
(ii) Time
(iii) Hour worked × Rate per hour
(iv) Material Transfer Note
(v) Cost office

Section B

Answers any five Questions, working notes should form part of the answer.

2. (a) 200 kg. Of a certain material valued at ₹ 50 per kg. were issued from the stores department to the production department. During transit, 2 kg. Physically disappeared due to shrinkage (1% shrinkage is considered normal). In the production process, the yield of good output was 80% of the input. 85 of the input had a slightly substandard dimension and this can be sold as seconds in the market at a discount of 25% of the selling price of good output which is ₹ 300 per kg. 12% of the input emerged as trimmings in the process. This was collected and can be sold in the market at a net price of ₹ 20 per kg. Which is credited to the manufacturing overhead as per the company's practice.

Explain with reasons the quantities that you will classify as;

- (i) Waste, (ii) Scrap, (iii) Spoilage.
(ii) What will be the material cost per unit of the good output? (A simply computed value will suffice and a detailed statement is not required). (10)

- (b) A factory has three production departments A, B and C and also two service departments 'X' and 'Y'. The primary distribution of the estimated overheads in the factory has just been completed. These details and the quantum of service rendered by the service departments, to the other departments are given below:

	A	B	C	X	Y
Primary distribution (₹)	240,000	210,000	250,000	140,00	96,000
Service rendered by					
Dept. X	30%	20%	35%	--	15%
Dept. Y	25%	40%	25%	10%	--

Prepare a statement showing the distribution of service dept. overheads to the production departments, by the simultaneous equation method. (6)

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Answer:

2. (a)

Material issued to production	200 kg.
Less- Shrinkage (1% of 200)	2 kg.
Input	198 kg.
Less- 12% of 198	23.76kg.
	174.24kg.
Less- 8% sub-standard (8% of 198)	15.84 kg.
Output	158.40

- (i) Wastage - As waste has practically no value, the accounting is relatively simple. The effect of the waste is to reduce the quantity of output. In order to arrive at the unit cost of the process, operation or job, the total cost of the process etc. is distributed over the reduced output, i.e. the units of good production only. The cost of abnormal waste, should however, be excluded from the total cost and charged to Profit and Loss Account. Here, waste generated = 2kg.
- (ii) Scrap- Scrap is the form of incidental material residue coming out of certain types of manufacturing processes but it is usually in small amounts and has low measurable utility or market value, recoverable without further processing. Scrap is discarded material having some value. Here Scrap generated = 23.76kg.
- (iii) Spoilage- Spoilage arises when the production output is damaged in such a manner and to such an extent that it cannot be used for the original purpose for which it was designed but is to be disposed off in some suitable manner without further processing. Spoilage involves not only the loss of material but also labour and manufacturing overheads. Here spoilage=15.84 kg.

Cost of material (200 x 50) = ₹ 10,000.00

Material cost per unit of output = 10,000 / 158.4 = ₹ 63.13/ unit.

(b) Let, P and N be the total overheads of the service departments „X” and „Y” respectively, then,

$P=1,40,000 + 0.10N$ i.e.,	$10P-N$	$=14,00,000$
$N=96,000 + 0.15P$ and	$-0.15P+N$	$=96,000$
By adding	$9.85P$	$14,96,000$
	$P = = 14,96,000/9.85$	$₹ 151,878$
	$N = 96,000+0.15 \times 151875$	
	$= 96,000+22,782$	$₹ 118,782$

Statement showing the distribution of service dept. overheads to the production Departments.

	Production	Departments		
Distribution of Overheads of	A(₹)	B (₹)	C (₹)	Total (₹)
1,40,000 Deptt X(85% of ₹ 1,51,878)	45,563	30,376	53,157	1,29,096
96,000 Deptt Y(90% of ₹1,18,782)	29,696	47,513	29,695	1,06,904
Total	75,259	77,889	82,852	2,36,000

3. (a) State the Objective and Functions of Cost Accounting Standard Board (CASB). (6)

(b) A tractor manufacturer, who commenced his business on 1st June, 2015 supplies you with the following information and asks for preparing a statement showing the profit per transistor sold. Wages and materials are to be charged at actual cost, works overhead at 75% of wages and office overhead at 30% of works cost. Number of transistors manufactured and sold during the year was 540.

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Other particulars:

Materials per set ₹ 240

Wages per set ₹ 80

Selling price per set = ₹ 600

If the actual works expenses were ₹ 32,160 and office expenses were ₹ 61,800, prepare a Reconciliation Statement. (10)

Answer :

3. (a) The objectives of the CASB are to develop high quality Cost Accounting Standards to enable the management to take informed decisions and to enable regulators to function more effectively by integrating, harmonizing and standardizing Cost Accounting Principles and Practices.

The following will be the functions of the CASB:

- (a) To issue the framework for the Cost Accounting Standards.
- (b) To equip the Cost & Management Accounting professionals with better guide lines on cost Accounting Principles.
- (c) To assist the members in preparation of uniform cost statements under various statutes.
- (d) To provide from time to time interpretations on Cost Accounting Standards.
- (e) To issue application guidance relating to particular standard.
- (f) To propagate the Cost Accounting Standards and to persuade the users to adopt them in the preparation and presentation of general purpose Cost Statement.
- (g) To persuade the government and appropriate authorities to enforce Cost Accounting Standards, to facilitate the adoption thereof, by industry and corporate entities in order to achieve the desired objectives of standardization of Cost Accounting Practices.
- (h) To educate the users about the utility and the need for compliance of Cost Accounting Standards.

(b)

Particulars	Unit (₹)	Total (₹)
Material	240.00	129,600
Wages	80.00	43,200
Prime Cost	320.00	172,800
Add- Works overhead (75% of wages)	60.00	32,400
Works Cost	380.00	2,05,200
Add- Office overheads	114	61,560
Total Cost	494.00	266,760
Add- Profit	106.00	57,240
Sales	600.00	324,000

Dr.		Trading and Profit & Loss Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To Materials A/c	129,600	By Sales A/c	324,000		
Y	43,200				
To Works Overhead A/c	32,160				
To Gross Profit	119,040				
	324,000			324,000	
To Office Expenses	61,800	By Gross Profit b/d	119,040		
To Net Profit	57,240				
	119,040			119,040	

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Statement of Reconciliation

Particulars	Amount (₹)	Amount (₹)
Profit as per Financial Accounts		57,240
Less- Over recovery of works overheads		(240)
Add- Under recovery of office expenses		240
Profit as per Cost Accounts		57,240

4. (a) A factory has two production processes. Normal loss in each process is 10% and scrapped units sell for Re 0.50 each from process I and ₹ 3 each from process II. Relevant information for costing purposes are as follows:

Direct Materials Added	Process I	Process II
Units	2000	1250
Cost	₹ 8100	₹ 1900
Direct Labour	₹4000	₹ 10,000
Production overhead	150% of direct labour cost	120% of direct labour cost
Output to process II/ Finished goods	1750 units	2800 units
Actual production overhead		₹ 17,800

Workout cost per unit of output and losses.

[10]

- (b) Shrijani Ltd. is having a Margin of Safety of ₹ 4 lakhs. Shrijani makes a profit of ₹ 80,000. If its Fixed cost is ₹ 5 lakhs, what will be the Break-Even Sales of Shrijani Ltd.?

[5]

Answer:

4. (a)

Dr.			Process I A/c			Cr.		
Particulars	Unit	Amount (₹)	Particulars	Unit	Amount (₹)			
To Materials	2000	8100	By Normal Loss	200	100			
To Dir. Labour		4000	By Abnormal Loss	50	500			
To Overheads		6000	By Process II	1750	17,500			
	2000	18,100		2000	18,100			

Dr.			Process II A/c			Cr.		
Particulars	Unit	Amount (₹)	Particulars	Unit	Amount (₹)			
To Process I	1750	17500	By Normal Loss	300	900			
To Purchases	1250	1900	By Finished Stock	2700	40,500			
To Direct Labour	--	10000						
To Production Overheads	--	12000						
	3000	41400		3000	41400			

Working Note:

Abnormal Loss:	Process I	Process II
Inputs introduced	2000	1750
Add – Additional	---	1250
	2000	3000
Less – Normal Loss:	200	300
Expected Output	1800	2700
Actual Output	1750	2700
Abnormal Loss / Gain	50 (Loss)	

Cost of Abnormal Loss = Total Cost incurred- Sale value of Normal Loss/Input-Normal Loss (in units) x Abnormal loss in units = 18100-100/2000-200 x 50 = ₹ 500.

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- (b) Margin of Safety = ₹ 400,000
 Profit = ₹ 80,000
 P/V Ratio = Profit/Margin of Safety x 100
 = 80,000/400,000 x 100
 = 20%.

Fixed cost = ₹500,000
 Break Even Sales= Fixed Cost/P.V. Ratio
 = 500,000/20%
 = ₹ 25,00,000.

5. (a) From the following you are required to calculate:

- (i) Material Usage Variance
 (ii) Material Price Variance
 (iii) Material Cost Variance

Quantity of material purchased	3000 Units
Value of material purchased	₹9000
Standard quantity of material required for one tonne of finished product	25 Units
Standard Rate of material	₹ 2 per unit
Opening Stock of material	Nil
Closing stock of material	500 Units
Finished production during the period	80 tonnes

[10]

(b) From the following information, calculate Economic Batch Quantity for Excel Ltd; using Batch Costing:

Annual Demand for the components	2400 Units
Setting up cost per batch	₹ 100
Manufacturing cost per unit	₹ 200
Carrying cost per unit	6% p.a.

[5]

Answer:

5. (a) Given Values:

SQ=Standard Quantity for Actual Production=25x80=2000 Units

AQ= Actual Quantity=2500 units (3000-500) units

SP=Standard Price=₹2

AP= Actual price= ₹3

I. SQSP= Standard Cost of Standard Material=2000 x 2 =₹ 4000

II. AQSP= Standard Cost of Actual Material=2500 x 2=₹ 5000

III. AQAP= Actual Cost of Material= ₹ 7500 (2500 units x ₹3 per unit)

Computation of Material Variances:

(i). Material Usage Variance = (I)-(II)= ₹ (4000-5000)=₹ 1000 (A)

(ii). Material Price Variance = (II)-III)=₹ (5000-7500)=₹ 2500 (A)

(iii). Material Cost Variance = (I) – (III)= ₹ (4000-7500)=₹ 3500(A).

- (b) EBQ = $\sqrt{2AS/C}$
 = $\sqrt{2 \times 2400 \times 100 / 6\%}$ of 200
 = 200 Units.

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6. (a) Production costs of Dehu Manufacturing for the Year 2016 is as follows:

	₹
Direct Wages	80,000
Direct Materials	120,000
Production Overhead, Fixed	40,000
Production Overhead, Variable	60,000

During the forthcoming year it is anticipated that:

- (i) The average rate for direct labour remuneration will fall from ₹ 0.80 per hour to ₹ 0.75 per hour.
 - (ii) Production efficiency will be reduced by 5%.
 - (iii) Price per unit of direct material and of other materials and services which comprise overheads will remain unchanged.
 - (iv) Production in the coming year will increase by 33 1/3%.
- Draw up a production cost budget.

(b) Delta Ltd. manufactures a product and currently utilising 80% of the capacity with a turnover of 32,000 units at a selling price of Rs 25 per unit. The variable cost of the product is Rs 17.5 per unit. Fixed cost amounts to ₹ 150,000 up to 80% of level of output and there will be an additional cost of a supervisor amounting to ₹ 20,000 beyond that level.

Calculate:

- (a) Activity level (%) at break-even point
- (b) Number of units to be sold to earn a net income of 10% of sales
- (c) Activity level (%) to earn a profit of Rs 100,000.

[7+8]

Answer:

6. (a) Production Cost Budget of Dehu Mfg. Ltd. for the Forthcoming Year

Particulars	Amount (₹)
i. Wages $[80,000 \times 133 \frac{1}{3}\% (0.75/0.80) \times 100/95]$	105,263
ii. Materials $[120,000 \times 133 \frac{1}{3}\%]$	160,000
iii. Variable overhead $[60,000 \times 133 \frac{1}{3}\%]$	80,000
iv. Fixed overheads	40,000
Production cost	385,263

(b) Present Capacity utilization of Delta Ltd. = 80%

Turnover at 80% capacity = 32,000 units

Turnover at 100% capacity = 40,000 units

Fixed cost ₹ 150,000

Fixed cost at more than 80% = ₹ 170,000

Selling price = ₹ 25 per unit

Contribution per unit = ₹ 7.50

PVR (Profit Volume Ratio) = $7.5/25 \times 100 = 30\%$

(a) BEP = Fixed Cost / Contribution per unit

$$= 150,000 / 7.5$$

$$= 20,000 \text{ units.}$$

$$\text{Activity level in \%} = 20000 / 40000 \times 100\% = 50\%.$$

(b) (i) If, Fixed Cost is Rs 150,000, let desired sales be x units;

Thus, desired sales = Fixed Cost + desired profit / PVR

$$X = 150,000 + .10x / .30$$

$$\text{So, } X = ₹ 750,000 \text{ units}$$

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Number of units= 150,000/25 = 30,000 units

As activity level is less than 32,000 units, hence, additional supervision cost will not be applicable.

(ii) If Fixed Cost is ₹ 170,000

$$X = 170,000 + .10x / .30$$

So, X = ₹ 850,000

No. of units=850,000/25 = 34,000 units

(c) No. of units to be sold to earn a profit of ₹ 100,000

No. of units=150,000 + 100,000/7.5 = 33,333 units; which exceeds 32,000 units.

Hence, fixed cost will be ₹ 170,000

No. of units= 100,000 + 100,000 / 7.5 = 36,000 units

Activity level=36,000 / 40,000 x100=90%.

7. (a) The Net Profits shown by financial accounts of Sea View Ltd. amounted to ₹ 18,550 whilst the profits disclosed by company's cost account for that period were ₹ 28,660. On reconciling the figures, the following differences were noted:

	₹
Director's fee not charged in cost accounts	650
A provision for bad and doubtful debts	570
Bank interest (Cr.)	30
Income Tax	8,300

Overheads in the cost accounts were estimated at ₹ 8500. The charges shown by the financial book was ₹ 8320.

Work was started during the year on a new factory and expenditure of ₹ 16,000 was incurred.

Depreciation of 5% was provided in financial accounts.

Prepare a Statement, Reconciling the figures shown by the cost and financial accounts.

- (b) Prepare the journal entries of the following transactions in a double entry cost accounting system:

Particulars	Amount (₹)
Issue of Material: Direct	550,000
Indirect	150,000
Allocation of Wages & Salaries: Direct	200,000
Indirect	40,000
Overhead absorbed in jobs: Factory	150,000
Administration	50,000
Selling	30,000
Under / Over absorbed overheads: Factory (over)	20,000
Administration	10,000

[7+8]

Answer:

7. (a) Statement showing Reconciliation of Profit shown by Cost and Financial Accounts

Particulars	Amount (₹)	Amount (₹)
Profit as per Financial Accounts		18,550
Add: Director's Fee	650	
Provision for Bad Debts	570	
Income Tax	8,300	
Depreciation in Financial Books	800	

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		28,700
Less: Bank Interest	30	
Over recovery of overheads	180	210
Profit as per Cost Accounts		28,660

(b)

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Particulars	Dr.	Cr.
Work in Progress Control A/c Dr.	55,000	
Factory Overhead Control A/c Dr.	15,000	
To Material Control A/c		70,000
Work in Progress Control A/c Dr.	200,000	
Factory Overhead Control A/c Dr.	40,000	
To Wages Control A/c		240,000
Work in Progress Control A/c Dr.	150,000	
Finished Goods Control A/c Dr.	50,000	
Cost of Sales A/c Dr.	30,000	
To Factory Overhead Control A/c		150,000
To Administrative Overhead Control A/c		50,000
To Selling Overhead Control A/c		30,000
Costing Profit & Loss A/c Dr.	10,000	
To Administrative Overhead Control A/c		10,000
Factory Overhead Control A/c Dr.	20,000	
To Costing Profit & Loss A/c		20,000

8. Write short notes on any three of the following:

[5x3=15]

(a) Just-in-Time (JIT)

(b) Research and Development Overheads

(c) Difference between Joint products and Co products

(d) Responsibility Accounting.

Answer:

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

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

- increased emphasis on supplier relationships. A company without inventory does not want a supply system problem that creates a part shortage. This makes supplier relationships extremely important.
- supplies come in at regular intervals throughout the production day. Supply is synchronized with production demand and the optimal amount of inventory is on hand at any time. When parts move directly from the truck to the point of assembly, the need for storage facilities is reduced.
- reduces the working capital requirements, as very little inventory is maintained.
- minimizes storage space.
- reduces the chance of inventory obsolescence or damage.

- (b) **Research and Development Overheads** - Research Cost is defined as the cost of searching for new or improved products, new applications of material, or new or improved methods, process, systems or services. In the modern days, firms spend heavily on Research and Development. Expenses incurred on research and development is known as Research and Development Overheads.

Research may be of the following types:

- (i) Pure or basic research to gain general know-how regarding the production or market, not directed towards any particular product.
 - (ii) Applied research which applies the basic knowledge in practice. i.e., improvement of existing products, new process, exploring of new products, improved measures of safety, etc.
 - (iii) Development cost is the cost of the process which begins with the implementation of the decision to use scientific or technical knowledge to produce a new or improved product or to employ a new or improved method, process, system, etc. and ends with the commencement of formal production of that product by that method. Development starts where the research ends. Development cost is the expenditure incurred for putting the results of research on a practical commercial basis.
- (c) **Difference between Joint products and Co products** - Joint products are frequently confused with co-products. However, there is significant difference between the two, the former being indivisible and the latter divisible. Common costs are allocable among products or services performed because each of the products or services could have been obtained separately. Therefore, any shared cost of obtaining them can be meaningfully allocated on the basis of relative usage of the common facilities. For example, the cost of fuel or power may be allocated to products based on production volumes and metered usage. Co-products do not always arise from the same operation or raw materials and the quantity of co-products is within the control of manufacturer. Thus different quantities of car, jeep and trucks can be produced in car manufacturing industry according to the need of the concern.
- (d) **Responsibility Accounting** - One of the recent developments in the field of management accounting is the responsibility accounting, which is helpful in exercising cost control. Responsibility Accounting is a system of accounting that recognizes various responsibility centers throughout the organization and reflects the plans and actions of each of these centers by assigning particular revenues and costs to the one having the pertinent responsibility.

It is also called profitability accounting and activity accounting. It is a system in which the person holding the supervisory posts as president, function head, foreman, etc are given a report showing the performance of the company or department or section as the case may be. The report will show the data relating to operational results of the area and the items of which he is responsible for control. Responsibility accounting follows the basic principles of any system of cost control like budgetary control and standard costing. It differs only in the sense that it lays emphasis