

**INTERMEDIATE EXAMINATION
GROUP -II
(SYLLABUS 2016)**

SUGGESTED ANSWERS TO QUESTIONS

JUNE- 2017

Paper- 8 : COST ACCOUNTING

Time Allowed : 3 Hours

Full Marks : 100

The figures on the right margin indicate full marks.
All Sections are compulsory. Each section contains instructions regarding the number of questions to be answered within the section.
All working notes must form part of the answer.
Wherever necessary, candidates may make appropriate assumptions and clearly state them.
No present value factor table or other statistical table will be provided in addition to this question paper.

Section - A

Section A contains Question Number 1. All parts of this question are compulsory.

1. Answer the following questions:

- (a) Choose the correct answer from the given alternatives (You may write only the Roman numeral and the alphabet chosen for your answer): $1 \times 10 = 10$
- (i) In process, conversion cost means
(A) Cost of direct materials, direct labour, direct expenses
(B) Direct labour, direct expenses, indirect material, indirect labour, indirect expenses
(C) Prime cost plus factory overheads
(D) All costs up to the product reaching the consumer, less direct material costs
- (ii) At the economic ordering quantity level, the following is true:
(A) The ordering cost is minimum
(B) The carrying cost is minimum
(C) The ordering cost is equal to the carrying cost
(D) The purchase price is minimum
- (iii) When a direct worker is paid on a monthly fixed salary basis, the following is true:
(A) There is no idle time lost.
(B) There is no idle time cost.
(C) Idle time cost is separated and treated as overhead.
(D) The salary is fully treated as factory overhead cost.
- (iv) The following is an example of direct expenses as per CAS-10:
(A) Special raw material which is a substantial part of the prime cost.
(B) Travelling expenses to site.
(C) Overtime charges paid to direct worker to complete work before time.
(D) Catalogue of prices of finished products.
- (v) The following is not treated as a manufacturing overhead:
(A) Lubricants
(B) Cotton waste
(C) Apportioned administration overheads
(D) Night shift allowance paid to a factory worker due to general work pressure.

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- (vi) When you attempt a reconciliation of profits as per Financial Accounts and Cost Accounts, the following is done:
- Add the under absorption of overheads in Cost Accounts if you start from the profits as per Financial Accounts.
 - Add the under absorption of overheads in Cost Accounts if you start from the profits as per Cost Accounts.
 - Add the over absorption of overheads in Cost Accounts if you start from the profits as per Financial Accounts.
 - Add the over absorption of overheads in Cost Accounts if you start from the profits as per Cost Accounts.
- (vii) Batch Costing is applied effectively in the following situation:
- paper manufacturing
 - drug manufacturing
 - designer clothes manufacturing
 - oil refining
- (viii) In the context of Contract a/c, work completed and not yet certified will be shown
- at cost plus + 2/3rd of the notional profit under 'Completed Work'.
 - at cost plus notional profit less retention money under 'Completed Work'.
 - at cost under 'Completed Work'.
 - at cost under WIP a/c.
- (ix) A certain process needed standard labour of 24 skilled labour hours and 30 unskilled labour hours at ₹ 60 and 40 respectively as the standard labour rates. Actually, 20 and 25 labour hours were used at ₹ 50 and 50 respectively. Then, the labour mix variance will be
- Adverse
 - Favourable
 - Zero
 - Favourable for skilled and unfavourable for unskilled
- (x) If an organization has all the resources it needs for production, then the principal budget factor is most likely to be
- non-existing
 - sales demand
 - raw materials
 - labour supply

- (b) Match the following (You may opt write only the Roman numeral and the matched alphabet instead of copying contents into the answer books): 1×5=5

	Column I		Column II
xi	High inventory turnover ratio	A	Works Overhead
xii	Job evaluation	B	Opportunity Cost
xiii	Salary of product designers	C	Co-product
xiv	By product value	D	Sales and Production Budget
xv	Master Budget	E	Administrative Overhead
		F	P & L Budget
		G	Rationality in wage structure
		H	Efficient use of stock
		I	Purchase cost/average inventory
		J	Evaluation of employee performance

- (c) State whether the following are 'True' or 'False' (You may write only the Roman numeral and whether 'True' or 'False' without copying the statements into the answer books): 1×5=5

- (xvi) Uniform Costing is a unique method of costing to determine costs accurately.
- (xvii) When overtime wages are incurred due to the general policy of the company arising due to lack of capacity, normal wages are treated as direct labour cost and the premium on overtime wages is treated as factory overheads.

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- (xviii) In marginal and absorption costing, variable factory overhead is treated as direct cost.
- (xix) Operation Costing and Operating Costing are interchangeably used for the same technique of costing.
- (xx) Standard Costs are costs that are estimated costs that are likely in the future production period.
- (d) Fill in the blanks (You may write only the Roman numeral and the content filling the blank): 1×5=5
- (xxi) Profit volume ratio _____ with increase in fixed cost (indicate the nature of change).
- (xxii) In the graph showing the angle of incidence, when the quantity is zero, the total cost line cuts the costs axis (y axis) at _____. (indicate the value)
- (xxiii) A process account is credited with value for _____ loss when scrap value is zero (indicate the type of loss).
- (xxiv) When special material is purchased for direct use in a job, _____ account is debited in the Integral Accounts System.
- (xxv) VED analysis is primarily used for control of _____ (indicate type of material).

Answer:

1. (a) (i) (B)
(ii) (C)
(iii) (B)
(iv) (B)
(v) (D)
(vi) (A)
(vii) (B)
(viii) (D)
(ix) (C)
(x) (B)
- (b) (xi) (H)
(xii) (G)
(xiii) (A)
(xiv) (B)
(xv) (F)
- (c) (xvi) False
(xvii) False
(xviii) False
(xix) False
(xx) False
- (d) (xxi) is constant
(xxii) Fixed Cost value
(xxiii) abnormal
(xxiv) WIP Control A/c
(xxv) Components or spare parts

Section - B

Answer any five questions from question numbers 2 to 8.

Each question carries fifteen marks.

2. (a) The following summarized information is available from the records of Oil Ltd. for the month of March, 2017:

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Sales for the month: ₹ 19,25,000

Opening stock as on 1 March, 2017 : 1,25,000 litres @ ₹ 6.50 per litre

Purchases (including freight and insurance):

March 5 1,50,000 litres @ ₹ 7.10 per litre

March 27 1,00,000 litres @ ₹ 7.00 per litre

Closing stock as on 31st March, 2017 1,30,000 litres

Expenses for the month is ₹ 45,000. Pricing of material issues is being done at the end of the month after all receipts during the month.

On the basis of above information, calculate the following using FIFO and LIFO methods of pricing:

(i) Value of closing stock as on 31 March, 2017.

(ii) Cost of goods sold during March, 2017.

(iii) Profit or loss for March, 2017.

(A detailed stores ledger account is not required. Only relevant figures need to be calculated).

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- (b) A factory has 3 production departments (P₁, P₂, P₃) and 2 service departments (S₁ & S₂). The following overheads and other information are extracted from the books for the month of May 2017:

Expenses	Amount (₹)
Rent	7,200
Plant Repair	3,600
Depreciation	2,700
Lighting	600
Supervision	9,000
Fire Insurance for stock	3,000
Cost of Idle Time	900
Power	5,400

Particulars	P ₁	P ₂	P ₃	S ₁	S ₂
Area sq ft	400	300	270	150	80
No. of workers	54	48	36	24	18
Wages Rs.	18,000	15,000	12,000	9,000	6,000
Value of plant Rs.	72,000	54,000	48,000	6,000	
Stock value Rs.	45,000	27,000	18,000		
Horse power of plant	600	400	300	150	50

(i) Allocate the overheads among the various departments on the most appropriate basis (primary distribution only).

(ii) If S₁ and S₂ use 10% of each other's facilities, find the total cost of S₁ by the simultaneous equation method.

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Answer:

2. (a) (i) Valuation of closing stock as on 31-03-2017:

(a) FIFO Method: (the closing stock will comprise the items purchased in the end)

	₹
1,00,000 litres purchased on 27-03-2017 @ ₹ 7.00	7,00,000
30,000 litres from purchases made on 05-03-2017 @ ₹ 7.10	2,13,000
1,30,000 value of closing stock under FIFO method	9,13,000

(b) LIFO Method: (the closing stock will comprise the items lying in opening stock and purchased in the beginning)

	₹
1,25,000 litres from opening stock @ ₹ 6.50	8,12,500
5,000 litres from purchases made on 05-03-2017 @ ₹ 7.10	35,500

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<u>1,30,000</u> value of closing stock under LIFO method	<u>8,48,000</u>
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(ii) Cost of Goods Sold:

	FIFO Method (₹)	LIFO Method (₹)
Opening stock as on 01.03.2017	8,12,500	8,12,500
Purchases made on 05.03.2017	10,65,000	10,65,000
Purchases made on 27.03.2017	7,00,000	7,00,000
Total	25,77,500	25,77,500
Less: Closing stock as per (i)	9,13,000	8,48,000
Cost of material consumed	16,64,500	17,29,500
Add: Expenses	45,000	45,000
Cost of goods sold	17,09,500	17,74,500

(iii) Profit for March, 2017:

	FIFO Method (₹)	LIFO Method (₹)
Sales	19,25,000	19,25,000
Cost of goods sold	17,09,500	17,74,500
Profit	2,15,500	1,50,500

(b) The primary distribution of overheads is as follows:

Expenses	Total ₹	Basis	P1 ₹	P2 ₹	P3 ₹	S1 ₹	S2 ₹
Rent	7,200	Area sq. ft.	2,400	1,800	1,620	900	480
Plant Repair	3,600	Plant value	1,440	1,080	960	120	--
Depreciation	2,700	Plant Value	1,080	810	720	90	--
Lighting	600	Area sq. ft.	200	150	135	75	40
Supervision	9,000	No. of Workers	2,700	2,400	1,800	1,200	900
Fire Insurance for stock	3,000	Stock Value	1,500	900	600	--	--
Cost of Idle Time	900	Wages	270	225	180	135	90
Power	5,400	Horse Power	2,160	1,440	1,080	540	180
Total	32,400		11,750	8,805	7,095	3,060	1,690

$$S_1 = 3,060 + 0.1 S_2$$

$$S_2 = 1,690 + 0.1 S_1$$

$$S_2 = 1,690 + 0.1(3,060 + 0.1 S_2) = 1,690 + 306 + 0.01 S_2 = 0.99 S_2 = 1,996$$

$$\therefore S_2 = 1,996 / 0.99 = 2,016.16$$

$$\therefore S_1 = 3,060 + 201.62 = 3,261.62$$

Or

$$S_1 = 3,060 + 0.1 S_2$$

$$S_2 = 1,690 + 0.1 S_1$$

$$S_1 = 3,060 + 0.1(1,690 + 0.1 S_1) = 3,060 + 169 + 0.01 S_1$$

$$\therefore 0.99 S_1 = 3,229 \therefore S_1 = 3,229 / 0.99 = 3,261.62$$

$$\therefore S_2 = 1,690 + 326.16 = 2,016.16$$

3. (a) From the following particulars calculate the profit as per cost records and also prepare a reconciliation statement, if the profit as per financial accounts for the year ending 31st March, 2017 was ₹1,35,525:

Particulars	₹	₹
Opening stock of raw materials		50,000
Opening stock of finished goods		1,50,000
Purchase of raw materials		3,50,000
Direct wages		1,50,000
Factory lighting	3,000	
Factory rent	24,000	
Power and fuel	30,000	

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Indirect wages	2,500	
Depreciation on plant & machinery	50,000	
Oil waste etc.	2,000	
Work manager's salary	23,000	
Miscellaneous factory expenses	1,250	1,35,750
Office rent	18,000	
Office lighting	600	
Depreciation on office appliances	2,000	
Office staff salaries	20,000	40,600
Closing stock of finished goods		50,000
Closing stock of raw materials		75,000
Donations		10,000

Factory overhead is charged at 20% on prime cost and office and administrative expenses at 50% of factory overhead. The selling price is fixed by adding 25% on the total cost of manufactured and finished articles sold. Assume no WIP. 9

(b) Fill up the following table in accordance with the principles of Cost Accounting Standards applicable:

Sl. No.	Items of expenses	Employee Cost as per CAS	Disclosure	Element of Cost
		Included/Excluded/Not applicable (NA)	Yes/No/NA	
I	II	III	IV	V
i	Basic Wages to Direct Worker			
ii	Normal Idle time Cost of Direct Worker			
iii	Perquisite paid by company to administration staff			
iv	Late payment fee to PF authorities for delayed remittance of Employer's contribution to Provident Fund			

(You may write only columns I, II, IV and V in your answer books).

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Answer:

3. (a)

Statement of Cost and Profit

Particulars	₹
Opening Stock of Raw Material	50,000
Add: Purchases of Raw Material	3,50,000
Less: Closing Stock of Raw Material	75,000
Raw Material consumed	3,25,000
Direct Wages	1,50,000
Prime Cost	4,75,000
Factory overheads (20% of Prime Cost)	95,000
Works Cost	5,70,000
Office and Administrative Overheads (50% of Factory Overhead)	47,500
Cost of Production	6,17,500
Add: Opening Stock of Finished Goods	1,50,000
Less: Closing Stock of Finished Goods	50,000
Cost of Goods Sold/ Total Cost	7,17,500
Profit (25% of Total Cost)	1,79,375
Sales	8,96,875

Reconciliation Statement

Particulars	₹
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Profit as per Financial Accounts	1,35,525
Add: Factory Overheads under recovered in Cost Accounts (₹ 1,35,750 – ₹ 95,000)	40,750
Donation not charged in Cost Accounts	10,000
	1,86,275
Less: Office Overhead over recovered in Cost Accounts (₹ 47,500 – ₹ 40,600)	6,900
Profit as per Cost Accounts	1,79,375

(b) Fill up the following table in accordance with the principles of Cost Accounting Standards applicable.

Sl.No.	Items of expenses	Employee Cost as per CAS	Disclosure Required under CAS 7	Element of Cost
		Included/Excluded/ Not applicable(NA)	Yes/No/NA	
(i)	Basic Wages to Direct Worker	Included	Yes	Direct Labour
(ii)	Normal Idle time Cost of Direct Worker	Excluded	No	Factory Overhead
(iii)	Perquisite paid by company to administration staff	Included	Yes	Administration Overhead
(iv)	Late payment fee to PF authorities for delayed remittance of Employer's contribution to Provident Fund	Excluded	NA	Not an element of Cost

4. (a) A factory has to produce and supply 48000 units of a component annually to a customer. The carrying cost per unit is ₹ 2 per component per month. The production run set up cost is ₹ 3,600 per production run.

- (i) Find out the economic batch size that must be produced to minimize total cost based on the above information.
- (ii) If it is found that the dye and hydraulic mechanism get heated up and consequently the dye has to be replaced by a new one at a cost of ₹ 1,200 for each run that has a batch quantity exceeding 1000 units, what batch size would you recommend to minimize overall costs? Substantiate your recommendations with appropriate calculations.
- (iii) Between the quantities suggested in (i) and (ii) above, how much would be the amount of savings or incremental expenses in (ii) over (i) with cost of dye replacement?

(b) A company produces a product 'M' by three distinct processes before it is ready for sale. From the information given below, work out the selling price of the product if the Management decides to earn a profit of 20% over its works cost. Present the process a/c for each process.

Particulars		Processes		
		A	B	C
1	Input of raw materials @ ₹ 40 per kg. (kg)	10,000	-	-
2	Normal loss of input	5%	5%	5%
3	Delivered to next process (kg)	9,000	8,000	-
4	Total direct labour cost (₹)	15,000	15,750	13,000
5	Variable overhead (%of direct labour)	150%	120%	100%
6	Fixed overhead (% of direct labour)	250%	180%	200%
7	Finished stock held back (kg)	400	400	-

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Answer:

4. (a) (i)

Economic Batch Quantity = $\frac{\sqrt{2 \times 48,000 \times 3600}}{2 \times 12} = 3,795$ units approximately / batch
--

(ii)

Hence, number of Set-ups = $48,000 \div 3,795 = 12.65$ say 13 (Set up can not be in Fraction). However, lenient view to be taken and marks to be awarded accordingly)	
Then, batch size = $48,000/13 = 3693$ units per batch	
Carrying cost = $2 \times (3693 / 2) \times 12$	= 44,316
Set up cost = 13×3600	= <u>46,800</u>
Total relevant cost	= <u>91,116</u>
Overall Cost as per (ii) of Question	
Carrying cost = $1,200/2 \times 12 \times 2$	= 14,400
Set up cost = $4,800^* \times 13$	= <u>62,400</u>
Total relevant cost	= <u>76,800</u>
Saving in (ii) over (i)	= <u>14,316</u>

- $3,600 + 1,200 = 4,800$ Set up Cost as batch size is more than 1000 Units per batch. (Candidates do not have to show the following, however, they may consider this approach, but the analysis should lead to the above result)
If the dye cost is built in to the setup cost, revised setup = 4800 per run

$EBQ = \frac{\sqrt{2 \times 48,000 \times 4800}}{2 \times 12} = \sqrt{1,92,00,000} = 4,382$ units / batch in this case,	
No. of set ups = $48,000 / 4,382 = 10.95$ say 11	
Set up cost = 11×4800	= 52,800
Carrying cost = $2 \times 12 \times 4,382 / 2$	= <u>52,584</u>
Total relevant cost	= <u>1,05,384</u>

(b)

Process A Account

Particulars	Kg.	₹	Particulars	Kg.	₹
To Input of Raw Material	10,000	4,00,000	By Normal loss	500	---
To Direct Labour		15,000	By Abnormal loss	100	5,000
To Variable Overheads		22,500	By Transfer to Process B	9,000	4,50,000
To Fixed Overheads		37,500	By Closing Stock	400	20,000
	10,000	4,75,000		10,000	4,75,000

Cost per kg = ₹4,75,000/9,500kg = ₹50

Process B Account

Particulars	Kg.	₹	Particulars	Kg.	₹
To Transfer From Process A	9,000	4,50,000	By Normal loss	450	---
To Direct Labour		15,750	By Abnormal loss	150	9,000
To Variable Overheads		18,900	By Transfer To Process C	8,000	4,80,000
To Fixed Overheads		28,350	By Closing Stock	400	24,000
	9,000	5,13,000		9,000	5,13,000

Cost per kg = ₹5,13,000/8,550 kg = ₹60

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Process C Account

Particulars	Kg.	₹	Particulars	Kg.	₹
To Transfer From Process B	8,000	4,80,000	By Normal loss	400	---
To Direct Labour		13,000	By Transfer to Finished Stock A/c	7,600	5,32,000
To Variable Overheads		13,000			
To Fixed Overheads		26,000			
	8,000	5,32,000		8,000	5,32,000

Cost per kg. = ₹ 5,32,000/7,600 kg = ₹70

Selling Price = ₹ 70 × 120/100 = ₹ 84 per kg. (20% above Works Cost)

5. (a) The following information relating to two vehicles is given. Prepare the Operating Cost Statement and determine the cost per running kilometre for each vehicle.

	Vehicle A (₹)	Vehicle B (₹)
Cost of vehicle	25,000	15,000
Road licence fee per year	750	750
Supervision yearly Salary	1,800	1,200
Driver's wages per hour	4.00	4.00
Cost of fuel per litre	1.50	1.50
Repairs and maintenance per km	1.50	2.00
Tyre cost per km	1.00	0.80
Garage rent per year	1,600	550
Insurance yearly	850	500
Kilometres run per litre	6	5
Kilometres run during the year	15,000	6,000
Estimated life of vehicle (km)	1,00,000	75,000

Charge interest at 10% on the cost of vehicle. Each vehicle runs 20 km. per hour on an average.

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- (b) A company undertook a contract for construction of a large building complex. The construction work commenced on 1st April 2016 and the following data are available for the year ended 31st March 2017:

Particulars	(₹ '000)
Contract price	35,000
Work certified	20,000
Progress payments received	15,000
Materials issued to site	7,500
Planning and estimating costs	1,000
Direct wages paid	4,000
Materials returned from site	250
Equipment hire charges	1,750
Wage related costs	500
Site office costs	678
Head office expenses apportioned	375
Direct expenses incurred	902
Work not certified	149

The contractor owns a plant which originally cost ₹ 20 lakhs and has been continuously in use only in this contract throughout the year. The residual value of the plant after 5 years of life is expected to be ₹ 5 lakhs. Straight line method of

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depreciation is in use. As on 31st March 2017, the direct wages due and payable amounted to ₹ 2,70,000 and the materials at site were estimated at ₹ 2,00,000

- (i) Prepare the contract account for the year ended 31st March 2017. Present figures in(₹ '000)
- (ii) Compute the amount of profit/loss to be taken to the profit and loss account of the year ending 31-3-2017. 7

Answer:

5. (a)

Operating Cost Statement

	Vehicle A (₹)	Vehicle B (₹)
Operating and maintenance cost per km.	3.20	3.50
Fixed charges per km.	0.50	0.75
Operating cost per km.	3.70	4.25
Workings:		
Calculation of Operating and maintenance cost per km.		
Driver's wages 4/20	0.20	0.20
Cost of fuel (1.50/6) (1.50/5)	0.25	0.30
Repairs and maintenance per km	1.50	2.00
Tyre cost per km	1.00	0.80
Depreciation	0.25	0.20
Operating and maintenance cost per km.	3.20	3.50
Calculation of fixed charges per km.		
Fixed charges per annum:		
Road licence	750	750
Supervisor's salary	1,800	1,200
Garage rent	1,600	550
Insurance	850	500
Interest	<u>2,500</u>	<u>1,500</u>
	<u>7,500</u>	<u>4,500</u>
Km. run during the year	15,000	6,000
Fixed charges per km. A-(7,500/15,000) B-(4,500/6,000)	0.50	0.75

(b)

Contract Account for the year ended 31st March 2016

Particulars	₹ '000	Particulars	₹ '000
To Materials issued	7,500	By Materials returned to stores	250
To Direct wages paid and accrued	4,270	By Material at site	200
To Wages related costs	500	By Working-in-progress:	
To Direct Expenses	902	Work certified	20,000
To Equipment hire charges	1,750	Work uncertified	149
To Planning & Estimation cost	1,000		
To Site office costs	678		
To H.O. expenses (apportioned)	375		
To Plant depreciation (2000 – 500)/5 years	300		
To National Profit c/d	3,324		
	20,599		20,599
To Profit & Loss A/c (Transfer)	1,662*	By National Profit b/d	3,324
To WIP A/c (Reserve)	1,662		
	3,324		3,324

* % Of Work completed:

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$$(20,000 / 35,000) \times 100 = 57.14\%$$

$$\therefore 2/3^{\text{rd}} \text{ Profit (Notional)}$$

$$3,324 \times (2/3) \times (15,000 \text{ Cash received}) / 20,000 \text{ Work certified}$$

$$= 3,324/2 = ₹ 1,662$$

6. (a) ABC Ltd. has furnished the following data for the two years:

Particulars	2015-16	2016-17
Sales (₹)	10,00,000	?
Profit/Volume Ratio	50%	37.5%
Margin of safety sales as a % of total sales	40%	21.875%

There has been substantial savings in the fixed cost in the year 2016-17 due to the restructuring process. The company could maintain its sales quantity level of 2015-16 in 2016-2017 by reducing the selling price.

You are required to calculate the following values (in ₹):

- (i) Sales for 2016-17
- (ii) Break-even sales for 2016-17
- (iii) Fixed cost for 2016-17

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(b) A firm can produce three different products from the same raw material using the same production facilities. The requisite labour is available in plenty at ₹ 8 per hour for all products. The supply of raw material, which is imported at ₹8 per Kg is limited to 10,400 kg. for the budget period. The variable overheads are ₹ 5.60 per hour. The fixed overheads are ₹ 50,000. The selling commission is 10% on sales.

From the following information, you are required to suggest the sales mix which will maximize the firm's profits. Also determine the profit that will be earned at the level:

Product	Market Demand (units)	Selling Price Per unit (₹)	Labour (Hours Required per unit)	Raw Material (Kg Required per unit)
X	8,000	30	1	0.7
Y	6,000	40	2	0.4
Z	5,000	50	1.5	1.5

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Answer:

6. (a) In 2015, P/V ratio = 50%

Variable cost ratio = 100%-50% = 50%

Variable cost in 2015 – 2016 = ₹ 10,00,000 × 50% = ₹ 5,00,000

In 2016 - 2017, sales quantity has not changed. Thus Variable Cost in 2016 – 2017 is ₹ 5,00,000.

In 2016 - 2017, P/V ratio = 37.50%

Thus, Variable Cost ratio = 100%-37.5% = 62.5%

(i) Thus sales in 2016 - 2017 = 5,00,000/62.5% = ₹ **8,00,000**

At break-even point, Fixed Cost is equal to contribution.

In 2016 - 2017 Break-even Sales = 100%-21.875% = 78.125%

(ii) Break-even sales = 8,00,000 × 78.125% = ₹ **6,25,000**

(iii) Fixed Cost of 2016 - 2017 = B.E. sales × P/V ratio
= 6,25,000 × 37.50% = ₹ **2,34,375**

(b)

Marginal Profitability Statement

Particulars	Production		
	X(₹)	Y(₹)	Z(₹)
Direct Materials	5.60	3.20	12.00
Direct Labour	8.00	16.00	12.00
Variable Production Overheads	5.60	11.20	8.40

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Variable Selling Overheads	3.00	4.00	5.00
(A) Total Variable Cost	22.20	34.40	37.40
(B) Selling Price	30.00	40.00	50.00
(C) Contribution per unit (B-A)	7.80	5.60	12.60
(D) Contribution per kg of raw material (Rs.)	11.14	14.00	8.40
(E) Ranking	II	I	III

Product	Demand Max. Units	Suggested Production Max. Units	Raw Materials Consumed (Kgs.)	Balance of Raw Materials (Kgs.)	Contribution (₹)
Y	6,000	6,000	(6,000 × 0.4) = 2,400	8,000	(6,000 × 5.60) = 33,600
X	8,000	8,000	(8,000 × 0.7) = 5,600	2,400	(8,000 × 7.80) = 62,400
Z	5,000	2,400/1.50 = 1,600	2,400	NIL	(1,600 × 12.60) = 20,160
Total Contribution					1,16,160
Less: Fixed Cost					50,000
Profit					60,160

7. (a) The standard material inputs required for 1,000 kgs. of a finished product are given below:

Material	Quantity (in kgs.)	Standard rate per kg (in ₹)
A	450	20
B	400	40
C	250	60
	1,100	
Less: Standard loss	100	
Standard output	1,000	

Actual production in a period was 40,000 kgs. of the finished product for which the actual quantities of material used and the prices paid thereof are as under:

Material	Quantity (in Kg)	Purchase price per kg. (in ₹)
A	20,000	19
B	17,000	42
C	9,000	65

Compute the following variances giving materialwise break up and indicate whether Favourable(F) or Adverse (A):

- | | |
|--------------------------------|------------------------------|
| (i) Material cost variance | (ii) Material price variance |
| (iii) Material usages variance | (iv) Material Mix variance |
| (v) Material yield variance | |

8

- (b) A glass manufacturing company requires you to calculate and present the Master Budget for the year 2017-18 from the following information:

Annual Sales : Toughened glasses A	₹ 30,00,000
Toughened glasses B	₹ 50,00,000
Direct material cost	60% of sales
Direct wages	20 workers @ ₹ 1,500 p.m.
Factory overheads & indirect labour:	
Works manager	₹ 5,000 p.m.
Foreman	₹ 4,000 p.m.
Stores and spares	2.50% of sales
Depreciation on machinery	₹ 1,26,000
Light and power	₹ 50,000
Repairs and maintenance	₹ 80,000

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Other sundries	10% of direct wages	
Administration, selling & distribution expenses	₹ 1,40,000 p.a.	7
(Present the fixed and variable overheads separately showing itemwise breakup)		

Answer: 7. (a):

Material cost variance = (16,00,000 – 16,79,000) = ₹ 79,000 (A)
Material price variance = (16,20,000 – 16,79,000) = ₹ 59,000 (A)
Material usage variance = (16,00,000 – 16,20,000) = ₹ 20,000 (A)
Material mix variance = (16,72,727 – 16,20,000) = ₹ 52,727 (F)
Material yield variance = (16,00,000 – 16,72,727) = ₹ 72,727 (A)
Workings:
(1) Actual Cost of Materials used =(AQ X AR)
A 20,000 X 19 = ₹3,80,000
B 17,000 X 42 = ₹7,14,000
C 9,000 X 65 = ₹5,85,000
= ₹16,79,000
(2) Standard Cost of Material used :
A 20,000 X 20 = ₹ 4,00,000
B 17,000 X 40 = ₹ 6,80,000
C 9,000 X 60 = ₹ 5,40,000
= Rs.16,20,000
(3) Standard Cost of Material if it had been used in standard proportion
A 450/ 1,100 X 46,000 X 20 = ₹3,76,363
B 400/ 1,100 X 46,000 X 40 = ₹6,69,091
C 250/ 1,100 X 46,000 X 60 = ₹6,27,273
= ₹16,72,727* OR
(4) standard Cost of output
A 450X 40 X 20 = ₹ 3,60,000
B 400 X 40 X 40 = ₹ 6,40,000
C 250 X 40 X 60 = ₹ 6,00,000
= ₹16,00,00** OR

*

Std. data			
	Q	P	V
A	18818.18	20	376363.6
B	16727.27	40	669090.8
C	10454.55	60	627273.0
	46000		1672727
Less: Loss	4181.82		-
	41818.18		1672727

**

1	
SQSP	
A	18000 x 20
B	16000 x 40
C	10000 x 60
A	360000
B	640000
C	600000

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	1600000
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$$\text{SQ for A} = \frac{18818.18}{41818.18} \times 40000 = 18000$$

$$\text{SQ for B} = \frac{16727.27}{41818.18} \times 40000 = 16000$$

$$\text{SQ for C} = \frac{10454.55}{41818.18} \times 40000 = 10000$$

(b)

Master Budget for the year 2017-2018			
Particulars	₹	₹	₹
Sales:			
Toughened glasses	30,00,000		
Bent Toughened glasses	50,00,000		
Total Sales (A)			80,00,000
Less: Cost of Sales:			
Direct Material (60% of Sales)	48,00,000		
Direct Wages (20 * ₹ 1,500 * 12)	3,60,000		
Prime Cost		51,60,000	
Factory Overheads (Variable)			
Store and Spares (2.5% on Sales)	2,00,000		
Light and Power	50,000		
Repairs and Maintenance	80,000	3,30,000	
Fixed: Works Manager's salary	60,000		
Fore men's Salary	48,000		
Depreciation of Machinery	1,26,000		
Sundries	36,000	2,70,000	
Work Cost (B)			57,60,000
Gross Profit (A-B)			22,40,000
Less: Administration, Selling and Distribution Overheads			1,40,000
Net Profit			21,00,000

8. Answer any three out of the following four questions: 5×3=15
- (a) List three items included and two items excluded under the Cost Accounting Standards for Direct Expenses.
- (b) State why and under what conditions will profits under absorption costing be
- (i) higher than
 - (ii) equal to and
 - (iii) lower than the profits under marginal costing.
- (c) Differentiate between Financial Accounting and Management Accounting.
- (d) How would you classify costs based on behaviour? Give an example to explain each class.

Answer:

8. (a) Items included under CAS 10:
- Any expense directly related to a cost centre or cost object, not being material or labour.
 - Cost of patents, royalty payments
 - Hire charges of special machinery or plant
 - Cost of special patterns, designs or tools.
 - Experimental costs and expenditure in connection with models and pilot schemes
 - Architects, surveyors and other consultants' fees
 - Travelling expenses to sites
 - Inward charges and freight charges on special material.

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Exclusions:

A direct expense which cannot be economically traced to the cost object or cost unit.

Portion unamortised out of a lumpsum, to be amortised later over its utility period.

Finance cost incurred in connection with any self generated or procured resources shall not form part of the direct expenses

Any subsidy, grant or incentive or any amount received or receivable with respect to any direct expense shall be reduced

Penalties/damages paid to statutory authorities shall not form part of the direct expenses.

(b) Profits as per absorption costing will be:

(i) higher than in marginal costing when closing stock is more than opening stock, since some overheads will be included in the inventory value under absorption costing while Marginal Costing considers the full overheads as cost of production,

(ii) equal when the opening and closing stocks are equal,

(iii) lower when opening stock is more than closing stock.

Since under Marginal Costing, only the current period's overheads are charged to production, while under absorption costing, a portion of the earlier period's overheads will be included in the opening stock value.

(c) Differences between Financial Accounting and Management Accounting:

Sl. No.	Financial Accounting	Management Accounting
(i)	Provides general business information like P&L account, Balance Sheet	Specific information relating to specific problems and decision making.
(ii)	Information for owners and outside parties	Information is for management for optimizing decisions.
(iii)	Importance is on recording rather than control	Emphasis is on control like using details of materials, labour, etc for standard costing, budgetary control.
(iv)	All commercial transactions between the business and external parties are recorded.	Concerned with Internal transaction not involving payment or receipt
(v)	Only those transactions that can be measured in monetary terms are recorded.	Other parameters like cost units, apportioning bases are also recorded.
(vi)	Efficiency of resource utilization - men/materials or machine is not available	Available for corrective action.
(vii)	Stocks are valued at cost or market value, whichever is lower.	Always valued at cost.
(viii)	Records are maintained as per Companies Act and as per Income Tax Act	Records are maintained as per Companies Act only in certain cases, that too as per Cost Accounting requirements, but mainly to suit the management for efficiency and control

(d) Classification of costs based on behaviour:

Fixed Costs:

Costs that do not vary with the change in the volume of activity in the short run.

They are not affected by temporary fluctuation in activity of an enterprise.

Example: rent, depreciation, etc.

Variable Costs:

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These costs vary directly with the volume of activity, Variable costs may be direct (like Direct Material, Direct Labour and Direct Expenses), when they are part of prime cost or they could be indirect, like selling expenses, variable factory overheads, etc. when they are called variable overheads.

Semi-Variable costs:

These contain both fixed and variable elements. The variable elements behave like the Variable Cost and the fixed element behaves like the Fixed Cost. The sum total therefore varies with change in activity, but not in the same proportion as variable costs.

Example: Factory supervision, maintenance, etc