GROUP - I
(SYLLABUS 2016)

SUGGESTED ANSWERS TO QUESTIONS

JUNE - 2019

Paper - 8 : COST ACCOUNTING

Time Allowed : 3 Hours **Full Marks : 100**

The figures in the margin on the right side 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): 1×10=10

(i) The main purpose of Cost Accounting is
- **(A) to maximise profit.**
- **(B) to help in inventory valuation.**
- **(C) to help in the fixation of selling price.**
- **(D) to provide information to management for decision making.**

(ii) Which of the following is considered to be a normal loss of material?
- **(A) Loss due to accident**
- **(B) Pilferage**
- **(C) Loss due to breaking the bulk**
- **(D) Loss due to careless handling of material**

(iii) In Reconciliation Statement expenses shown only in financial accounts are
- **(A) added to financial profit.**
- **(B) added to costing profit.**
- **(C) ignored.**
- **(D) deducted from financial profit.**

(iv) Which of the following is a service department?

(A) Refining department
(B) Machining department
(C) Receiving department
(D) Finishing department

(v) Which of the following items is not included in preparation of cost sheet?

(A) Purchase returns
(B) Carriage inwards
(C) Sales commission
(D) Interest paid

(vi) In job costing to record the issue of direct materials to a job which of the following document is used?

(A) Purchase order
(B) Goods receipt note
(C) Material requisition
(D) Purchase requisition

(vii) In a process 4000 units are introduced during a period. 5% of input is normal loss. Closing work-in-progress 60% complete is 500 units. 3300 completed units are transferred to next process. Equivalent production for the period is

(A) 3550 units
(B) 3600 units
(C) 3800 units
(D) 3950 units

(viii)Product A generates a contribution to sales ratio of 40%. Fixed cost directly attributable to A amount Rs. 60,000. The sales revenue required to achieve a profit of Rs.15,000 is

(A) Rs 2,00,000
(B) Rs 1,85,000
(C) Rs 1,87,500
(D) Rs 2,10,000

(ix) During a period 13600 labour hours were worked at a standard rate of Rs. 8 per hour. The direct labour efficiency variance was Rs. 8,800 (Adv). How many standard hours were produced?

(A) 12000 hours
(B) 12500 hours
(C) 13000 hours
(D) 13500 hours

(x) Cash Budget of ABC Ltd. forewarns of a short-term surplus. Which of the following would be appropriate action to be taken in such a situation?

(A) Purchase new fixed assets
(B) Repay long-term loans
(C) Write off preliminary expenses

(D) Pay creditors early to obtain a cash discount

(b) Match the statement in Column I with the most appropriate statement in Column II (You may opt to write only the Roman numeral and the matched alphabet instead of copying contents into the answer books): 1x5=5

	Column I		Column II
(i)	Pharma Industry	A	Opportunity Cost
(ii)	Management by exception	B	Direct Allocation
(iii)	Assessment of employee with respect to a job	C	Joint Cost
(iv)	Royalties	D	Batch Costing
(v)	CAS-19	E	Merit Rating
		F	Variance Analysis
		G	Job Evaluation
		H	Notional Cost

(c) State whether the following statements are 'True' or 'False': (You may write only the Roman numeral and whether 'True' or 'False' without copying the statements into the answer books): 1x5=5

(i) Bin card is maintained by the costing department.

(ii) CAS-8 deal with the principles and methods of determining the direct expenses.

(iii) FIFO method is followed for evaluation of equivalent production when prices are fluctuating.

(iv) Profit Volume ratio remains constant at all levels of activity.

(v) The principal factor is the starting point for the preparation of various budgets.

(d) Fill in the blanks: (You may write only the Roman numeral and the content filling the blanks) 1x5=5

(i) Differential cost is the change in the cost due to change in _____ from one level to another.

(ii) CAS _____ stands for cost of service cost centre.

(iii) In contract costing, the cost unit is _____.

(iv) Marginal cost is the _____ of sales over contribution.

(v) When actual cost is less than the standard cost, it is known as _____ variance.

Answer:

1. (a) (i) (D)
(ii) (B)
(iii) (A)
(iv) (C)
(v) (D)
(vi) (C)
(vii) (B)
(viii) (C)
(ix) (B)
(x) (D)

(b)

	Column I		Column II
(i)	Pharma Industry	D	Batch Costing
(ii)	Management by exception	F	Variance Analysis
(iii)	Assessment of employee with respect to a job	E	Merit Rating
(iv)	Royalties	B	Direct Allocation
(v)	CAS-19	C	Joint Cost

(c) (i) False
(ii) False
(iii) False
(iv) True
(v) True

(d) (i) Activity
(ii) CAS - 13
(iii) Per Contract
(iv) Excess
(v) Favourable

Section - B

Answer any five questions from question numbers 2 to 8.
Each question carries 15 marks.

15 × 5 = 75

2. (a) ZINTES LTD. a manufacturing company has its factories at two locations. Rowan plan is in use at location A and Halsey plan at location B. Standard time and basic rate of wages are same for a job which is similar and is carried out on similar machinery. Time allowed is 60 hours.

Job at location A is completed in 36 hours while at B, it has taken 48 hours. Conversion costs at respective places are Rs.1224 and Rs.1500. Overheads amount to Rs.20 per hour.

Required:
(i) Find out the normal wage rate, and
(ii) Compare conversion costs. 7

(b) ALPHA LTD. has three Production Departments and two Service Departments. The overhead distribution sheet of the company showed the following totals:

Production Department:	**Amount (Rs.)**
P	**75,500**
Q	**72,000**
R	**96,500**
Service Department:	
X	**46,250**
Y	**15,750**

Other information is as follows:

(a) Working hours of production departments are P-6226 hours, Q-4028 hours and R-4066 hours.

(b) Services rendered by service departments are as under:

	P	Q	R	X	Y
Department X	**20%**	**30%**	**40%**	**—**	**10%**
Department Y	**40%**	**20%**	**30%**	**10%**	**—**

Required:

(i) Calculate the total overhead of production departments distributing the cost of service departments by Simultaneous Equation Method.

(ii) Calculate the overhead rate per hour of production departments. 8

Answer:
2(a):

Let Rs. X per hour be the normal wage rate. Wage rate at location A will be Rs. 36x and at location B - it will be Rs. 48x, on the basis of actual time taken, as against 60 hours permitted. For time saved, bonus will be payable as under:

1

Location A:

Bonus under Rowan system $= \frac{\text{Time saved}}{\text{Time allowed}} \times$ Hrs. worked × Rate per hour

$= \frac{24}{60} \times$ Rs. 36 × x = Rs. 14.4x

Total wages =Rs. 36x + Rs.14.4x = 50.4x

Overheads @Rs. 20 per hour worked = 36 hrs. × Rs. 20 = Rs. 720

Therefore, total conversion cost is (50.4x+ Rs. 720) = Rs. 1,224 or 50.4x =Rs. 504

Or x = Rs.504/50.4 = Rs. 10

So, Bonus = 14.4x =14.4 × Rs. 10 = Rs. 144

Location B:

Bonus under Halsey plan = 50% of time saved × rate per hour

= 50% of Rs. 12x = Rs.6x

Total wages = Rs. 48x + Rs. 6x = Rs. 54x

Overheads @ Rs. 20 per hour = 48 hrs. × Rs. 20 = Rs. 960

Total conversion cost is (54x + Rs. 960) = Rs.1,500 or 54x = Rs. 540

Hence, x= Rs. 540/54 = Rs. 10

Bonus= 6x = 6 × Rs.10 =Rs. 60

(i) Comparative conversion cost:

Location→	**A (Rowan)**	**B (Halsey)**
Amount→	Rs.	Rs.
Wages @ Rs.10 per hour worked	360	480
Bonus	144	60
Overheads	720	960
Total	1,224	1,500

(b):

(i) Simultaneous Equation Method:

Let Total Cost of Service Department X be Rs. "x" and

Let Total Cost of Service Department Y be Rs "y"

X = Rs. 46,250 + 10% Y

Y = Rs. 15,750 + 10%x

By multiplying both Equations by 100, we get

100x = Rs. 46,25,000 + 10y or 100x- 10y = Rs. 46,25,000 (1)

100y = Rs. 15,75,000 + 10x or -10x +100y =Rs. 15,75,000 (2)

By Multiplying Equation (2) by 10, we get

Equation (1) 100x – 10y = Rs. 46,25,000

Equation (2) -100x +1,000y = Rs. 1,57,50,000

By adding we get 990y =Rs. 2,03,75,000 ∴ y = Rs. 20,581

Substituting the value of "y" in Equation (1), we get

100x – (10 × Rs. 20,581) = Rs. 46,25,000 or

100x = Rs. 46,25,000 + Rs.2,05,810 or 100x = Rs. 48,30,810

∴ x= Rs. 48,308

Calculation of Total Overheads of Production Departments:

Particulars	P	Q	R	X	Y
Overheads (Rs.)	75,500	72,000	96,500	46,250	15,750
Costs of X (Rs. 48,308) [2:3:4:1]	9,662	14,492	19,323	(48,308)	4,831
Costs of Y (Rs. 20,581)[4:2:3:1]	8,233	4,116	6,174	2,058	(20,581)
Total	93,395	90,608	1,21,997	-	-

(ii) Calculation of Overhead Rate per Hour:

	P	Q	R
(aa) Total Overheads (Rs.)	93,395	90,608	1,21,997
(bb) Working Hours	6,226	4,028	4,066
(cc) Overhead Rate per Hour [(aa)/(bb)] (in Rs.)	15.00	22.49	30.00

3. (a) What is the Employee Cost as defined in CAS-7 (Limited Revision 2017)? Also discuss the general principles of its measurement as per CAS-7. (any five only) 6

(b) The following information has been extracted from the financial books of ABC Ltd. for the year ended 31st March, 2019:

Particulars	Amount (Rs.)
Direct materials consumption	10,00,000
Direct wages	6,00,000
Factory Overhead	3,20,000
Administrative Overhead	1,40,000
Selling and Distribution Overhead	1,92,000
Bad debts	16,000
Preliminary expenses written-off	8,000
Legal expenses	2,000
Dividend received	20,000
Interest on deposits received	4,000
Sales(24000 units)	24,00,000
Closing stock of finished goods (800 units)	64,000
Closing stock of work-in-progress	48,000

The cost accounts for the same period reveal that the direct materials consumption was Rs. 11,20,000. Factory overheads recovered at 20% of prime cost; Administration overheads recovered @ Rs. 6 per unit of production; and selling and distribution overheads recovered at Rs. 8 per unit sold.

Required:

(i) Find out the profit as per financial books.

(ii) Prepare the cost sheet and ascertain the profit per cost accounts.

(iii) Prepare a statement reconciling profit shown by financial and cost accounts. 9

Answer:

3. (a) Employee Cost - CAS-7 [Limited Revision 2017):

As per CAS-7 [Limited Revision 2017] Employee Cost is the benefits paid or payable in all forms of consideration given for the service rendered by employee (including temporary, part time and contract employee/s) of an entity.

General Principles of Measurement:

The guidelines for ascertaining the Labour Cost/Employee Cost are as follows:

(i) Employee Cost shall be ascertained taking into account the gross pay including all allowances payable along with the cost to the employer of all the benefits.

(ii) Bonus whether payable as a statutory minimum or on a sharing of surplus shall be treated as part of Employee Cost. Ex-gratia payable in lieu of or in addition to bonus shall also be treated as part of the Employee Cost.

(iii) Remuneration payable to managerial personnel including executive directors on board and other officers of a corporate body under a statute will be considered as part of the Employee Cost of the year under reference, whether the whole or part of the remuneration is considered as a percentage of profits.

(iv) Separation costs related to voluntary retirement, retrenchment, termination etc. shall be amortized over the period of benefitting from such costs.

(v) Employee Cost shall not be included any imputed costs.

(vi) Any subsidy, grant, incentive or any such amount received or receivable with respect to any Employee Cost shall be reduced from ascertainment of cost of the project to which such amounts are related.

(vii) Any abnormal cost where it is material and quantifiable shall not form part of the Employee Cost.

(viii) Penalties, damages paid to statutory authorities or other third parties shall not form part of the Employee Cost.

(ix) The cost of free housing, free conveyance and any other similar benefits provided to an employee shall be determined at the total cost of all resources consumed in providing such benefits.

(x) Any recovery from employees towards the facilities provided shall be reduced from the Employee Cost.

(xi) Cost of idle time is ascertained by the idle hours multiplied by the hourly rate applicable to idle employee or a group of employees.

(xii) Where Employee Cost is accounted at standard cost, variances due to normal reasons related to employee cost shall be treated as part of Employee Cost. Variances due to abnormal reasons shall be treated as part of abnormal cost.

(xiii) Any change in the cost accounting principles applied for the determination of the Employee Cost should be made only if it is required by law or for compliance with Cost Accounting Standard or change would result in a more appropriate way of presentation of Cost Statement.

(b) (i)

Financial trading and Profit & Loss Account
for the Year ended 31st Mach, 2019

Dr. Cr.

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Direct Materials	10,00,000	By Sales	24,00,000
To Direct Wages	6,00,000	By Dividend received	20,000
To Factory Overheads	3,20,000	By Interest received	4,000
To Administration Overheads	1,40,000	By Closing Stock:	
To Selling & Distribution Overheads	1,92,000	Finished Goods	64,000

To Bad Debts	16,000		
To Preliminary Expenses	8,000	Work-in-process	48,000
To Legal Expenses	2,000		
To Net Profit	2,58,000		
	25,36,000		25,36,000

(ii)

Cost Sheet

Particulars	Amount (Rs.)
Direct Materials	11,20,000
Direct Wages	6,00,000
Prime Cost	17,20,000
Factory Overheads (20% of Prime Cost)	3,44,000
	20,64,000
Less: Closing Stock of WIP	48,000
Factory Cost	20,16,000
Administration Overheads (24,800 ×Rs. 6)	1,48,800
Cost of Production	21,64,800
Less: Closing stock of Finished Goods {(21,64,800 × 800)/24800}	69,832
Cost of Goods Sold	20,94,968
Selling & Distribution Overheads (24,000 ×Rs. 8)	1,92,000
Cost of Sales (Total Cost)	22,86,968
Sales	24,00,000
Profit (Sales – Total Cost)	1,13,032

(iii)

Reconciliation Statement

Particulars	Amount (Rs.)	Amount (Rs.)
Profit as per Cost Accounts		1,13,032
Add:		
Over recovery of Direct Materials		1,20,000
Over recovery of Factory Overheads		24,000
Over recovery of Administration Overheads		8,800
Financial incomes not considered in Cost Accounts :		
Dividend received	20,000	
Interest on deposits received	4,000	24,000
		2,89,832
Less:		
Over valuation of Closing Stock of Finished Goods in Cost Accounts		5,832
Pure Financial Expenses not considered in Cost Accounts :		
Bad debts	16,000	
Preliminary Expenses	8,000	
Legal Expenses	2,000	26,000
Profit as per Financial Accounts		2,58,000

4. (a) VIPUL LTD. submits the following information on 31st March, 2019:

Particulars	Amount (Rs.)
Sales for the year	55,00,000
Purchases of material for the year	22,00,000
Direct labour	13,00,000
Inventories at the beginning of the year—	
Finished goods	1,40,000
Work-in-progress	80,000
Materials inventory—	
At the beginning of the year	60,000
At the end of the year	80,000
Inventories at the end of the year—	
Work-in-progress	1,20,000
Finished goods	1,60,000

Factory overheads were 60% of the direct labour cost.

Administration expenses were 5% of sales.

Selling & distribution expenses were 10% of sales.

You are required to prepare a Cost Sheet with all elements 8

(b) WEST LAND LTD. in the course of refining crude oil obtains four joint products P, Q, R and S. The total cost till the split-off point was Rs. 9,76,640. The output and sales in the year 2018 were as follows:

Product	Output (Gallon)	Sales Amount (Rs.)	Separate Costs Amount (Rs.)
P	50,000	12,50,000	2,60,000
Q	10,000	30,000	20,000
R	5,000	50,000	—
S	8,000	80,000	10,000

Required:

(i) Calculate the net income for each of the products if the joint costs are apportioned on the basis of Net realisable values (NRV) of the different products.

(ii) Calculate the net income of each of the products if the company decides to sell the products at the split-off point itself as – P @ Rs. 18, Q @ Rs. 1.50, R @ Rs. 10 and S @ Rs. 7.80 per gallon. 7

Answer:

4. (a)

Cost Sheet on 31st March, 2019

Particulars	Amount (Rs.)
Materials consumed:	
Opening Stock + Purchase – Closing Stock Rs.(60,000 + 22,00,000 – 80,000)	21,80,000
Direct Labour	13,00,000
Prime Cost	34,80,000
Factory Overheads (60% of Direct Labour Cost)	7,80,000

	42,60,000
Add: Opening Work-in-progress	80,000
Less: Closing Work-in-progress	1,20,000
Factory Cost	42,20,000
Administration Expenses (5% of Sales)	2,75,000
Cost of Production	44,95,000
Add: Opening Stock of Finished Goods	1,40,000
Less: Closing Stock of Finished Goods	1,60,000
Cost of Goods Sold	44,75,000
Selling & Distribution Expenses (10% of Sales)	5,50,000
Cost of Sales	50,25,000
Sales	55,00,000
Profit (Sales-Cost of Sales)	4,75,000

(b) (i) Statement showing Profit after Further Processing:

Amount (Rs.)

Particulars	P	Q	R	S	Total
(a)Sales after further processing	12,50,000	30,000	50,000	80,000	14,10,000
(b)Separate Costs	2,60,000	20,000	---	10,000	2,90,000
(c)Sales after split off (a-b)	9,90,000	10,000	50,000	70,000	11,20,000
(d)Joint Costs (on the basis of NRV)	8,63,280	8,720	43,600	61,040	9,76,640
(e)Profit (c-d)	1,26,720	1,280	6,400	8,960	1,43,360

(ii) Statement showing Profit at Split off Point:

Amount (Rs.)

Particulars	P	Q	R	S	Total
(a) Sales at Split off in Units	50,000	10,000	5,000	8,000	
(b) Sale Price in Rs.	18	1.50	10	7.80	
(c) Sales at Split off in Rs.	9,00,000	15,000	50,000	62,400	10,27,400
(d) Joint costs	8,63,280	8,720	43,600	61,040	9,76,640
(e) Profit (c - d)	36,720	6,280	6,400	1,360	50,760

5. (a) CARLHAMS LTD. runs a lodging home in a hill station. For this purpose, it has hired a building at a rent of Rs. 1,20,000 per month along with 5% of total takings. The lodging home has three types of suites for its customers, viz., single room, double rooms and triple rooms.

Following information is given:

Type of Suite	Number	Occupancy%
Single Room	**100**	**80%**
Double Rooms	**40**	**60%**
Triple Rooms	**20**	**50%**

The rent of double rooms suite is to be fixed at 1.5 times of the single room suite and that of triple rooms suite as twice of the double rooms suite.

The expenses for the year 2018 are as follows:

Particulars	Amount (Rs.)
Staff salaries	32,50,000
Room attendants' wages	12,00,000
Lighting, heating and power	9,75,000
Repairs & renovation	4,80,000
Laundry charges	1,65,000
Interior decoration	1,80,000
Sundry expenses	1,94,000

Provide profit @ 20% on total takings and assume 360 days in a year.

You are required to work out the room rent chargeable per day for each type of suite. **8**

(b) NIRVANA LTD. undertook a contract for Rs. 50,00,000 on 1st April, 2018. On 31st March, 2019 when the accounts of the company were closed, the following details about the contract were gathered:

Particulars	Amount (Rs.)
Materials purchased	10,00,000
Wages paid	4,50,000
General expenses	1,00,000
Plant purchased	5,00,000
Materials on hand on 31.03.2019	2,50,000
Wages accrued on 31.03.2019	50,000
Work certified	20,00,000
Cash received	15,00,000
Work uncertified	1,50,000
Depreciation of plant	50,000

The above contract contained an escalation clause which read as follows:

"In the event of prices of materials and rates of wages increase by more than 5%, the contract price would be increased accordingly by 25% of the rise in the cost of materials and wages beyond 5% in each case."

It was found that since the date of signing the agreement, the price of materials and wage rates increased by 25%. The value of work certified does not take into account the effect of the above clause.

Required:

Prepare Contract Account of the company as on 31st March, 2019. **7**

Answer:

5.(a) Computation of Total Equivalent Single Room Suites

Nature of Suites	Occupancy Calculation	Total Occupancy	Equivalent Single Room Suites	
			Occupancy Rate	Equivalent Number
	A	B	C	B × C = D
Single Rooms	100 × 360 × 80%	28,800	1	28,800
Double Rooms	40 × 360 × 60%	8,640	1.5	12,960
Triple Rooms	20 × 360 × 50%	3,600	3	10,800
Total				52,560

Statement of Total Cost

Particulars	Amount (Rs.)
Staff salaries	32,50,000
Room attendants' wages	12,00,000
Lighting, Heating and Power	9,75,000
Repairs and Renovation	4,80,000
Laundry charges	1,65,000
Interior decoration	1,80,000
Sundry Expenses	1,94,000
Sub-total	64,44,000
Add: Building rent (1,20,000 ×12 Months ×5% of total takings)	14,40,000 + 5% of total takings
Total Cost	78,84,000 + 5% of total takings

Profit is 20% of total takings.

Therefore, Total takings = Rs. 78,84,000 + 25% of Total Takings
Now, let 'x' be the rent for single room suite,

Then, 52,560x = Rs. 78,84,000 + 25% of 52,560x
52,560x = Rs. 78,84,000 + 13,140x or 39,420x = Rs. 78,84,000
∴ x = Rs. 78,84,000/39,420 = Rs. 200

Therefore,

Rent chargeable for Single Room Suite = Rs. 200× 1 = Rs. 200

Rent chargeable for Double Room Suite = Rs. 200 × 1.5 = Rs. 300

Rent chargeable for Triple Room Suite = Rs. 200 × 3 = Rs. 600

(b)

Contract Account of Nirvana Ltd
(for the Year ending on 31st March, 2019)

Dr Cr

Particulars	Amount (Rs.)		Particulars	Amount (Rs.)	
To Materials		10,00,000	By Materials on hand		2,50,000
To Wages paid	4,50,000		By Work-in-progress		
Add: Accrued	50,000	5,00,000	Work certified	20,00,000	
			Work uncertified	1,50,000	21,50,000
To General expenses		1,00,000	By Contract escalation (W. N. 1)		50,000
To Depreciation on Plant		50,000			
To Notional Profit c/d		8,00,000			
		24,50,000			24,50,000
To P & L A/c [W. N. 2]		1,95,122	By Notional Profit b/d		8,00,000
To Reserve A/c		6,04,878			-
		8,00,000			8,00,000

Working Notes:

(i) Calculation of Escalation Amount:

Cost of Materials and Wages incurred = Rs. 10,00,000 + 4,50,000 + 50,000 – 2,50,000
= Rs. 12,50,000

Cost of Materials and Wages before increase in prices = (Rs. 12,50,000× 100)/125
= Rs.10,00,000

Therefore, increase in Contract Price = (25/100)[₹Rs.12,50,000 – {(10,00,000 × 105)/100}]
= Rs. 50,000

(ii) Profit to be credited to P&L A/c:
Profit = Notional Profit ×{(1/3) ×(cash received/work certified)}
The contract escalation is added to work certified:
Profit = Rs. 8,00,000 ×{(1/3) ×(15,00,000/20,50,000)} = Rs. 1,95,122

6. (a) MODERN LTD. has three departments X, Y and Z, each of which makes a different product. The budgeted data for the coming year are as follows:

	Amount (Rs.)		
Particulars	**X**	**Y**	**z**
Sales	**22,40,000**	**11,20,000**	**16,80,000**
Direct materials	**2,80,000**	**1,40,000**	**2,80,000**
Direct labour	**1,12,000**	**1,40,000**	**4,48,000**
Direct expenses	**2,80,000**	**1,40,000**	**5,60,000**
Fixed cost	**5,60,000**	**2,80,000**	**5,60,000**

The management of the company is considering to close down department 'Z'. There is a possibility of reducing fixed cost by Rs. 1,50,000 if department 'Z' is closed down.

Advise the management whether or not department 'Z' should be closed down. 8

(b) SRIJAN LTD. had incurred fixed expenses of Rs. 9,00,000 with sales of Rs. 20,00,000 and earned a profit of Rs. 3,00,000 during the first half-year. In the second-half, it suffered a loss of Rs. 1,50,000.

Required:
Calculate the following:
(i) The P/V Ratio, Break Even Point and Margin of Safety for the first half-year.
(ii) The expected sales amount for the second half-year assuming that the selling price and fixed expenses remained unchanged during the second half-year.
(iii) The Break Even point and Margin of Safety for the whole year. 7

Answer:

6. (a)

Statement of Profit before closing Department 'Z'

Amount (Rs.)

Particulars	X	Y	Z	Total
(i) Sales	22,40,000	11,20,000	16,80,000	50,40,000

(ii) Variable Cost:				
Direct Materials	2,80,000	1,40,000	2,80,000	7,00,000
Direct Labour	1,12,000	1,40,000	4,48,000	7,00,000
Direct Expenses	2,80,000	1,40,000	5,60,000	9,80,000
(iii) Total Variable Cost	6,72,000	4,20,000	12,88,000	23,80,000
(iv) Contribution (i-iii)	15,68,000	7,00,000	3,92,000	26,60,000
(v) Fixed Cost (As given in Question)	5,60,000	2,80,000	5,60,000	14,00,000
(vi) Profit (iv-v)	10,08,000	4,20,000	(1,68,000)	12,60,000

Statement of profit after closing Department 'Z'

Amount (Rs.)

Particulars	X	Y	Total
(i) Sales	22,40,000	11,20,000	33,60,000
(ii)Variable cost:			
Direct Materials	2,80,000	1,40,000	4,20,000
Direct Labour	1,12,000	1,40,000	2,52,000
Direct Expenses	2,80,000	1,40,000	4,20,000
(iii) Total Variable Cost	6,72,000	4,20,000	10,92,000
(iv) Contribution (i-iii)	15,68,000	7,00,000	22,68,000
(v) Fixed cost			12,50,000
(vi) Profit (iv-v)			10,18,000

Advice: From the comparative profitability statements stated supra, it is clear that profit is decreased by **Rs.** 2,42,000 that is (**Rs.** 12,60,000 –Rs.10,18,000) by closing down Department 'Z'. Therefore, it should not be closed down.

(i) (b) P/V Ratio = (Contribution/ Sales) × 100

Where, Contribution = Fixed Cost + Profit = Rs. 9,00,000 + Rs. 3,00,000 = Rs. 12,00,000

P/V Ratio = (Rs. 12,00,000 / 20,00,000) × 100 = 60%

Break Even Point = (Fixed Cost)/ (P/V Rtio)

= Rs. 9,00,000/ 60% = Rs. 15,00,000

Margin of Safety = Sales- Break Even Point

= Rs. 20,00,000 – Rs. 15,00,000 = Rs.5,00,000

Or Margin of Safety = (Profit)/ (P/V Ratio) = Rs. 3,00,000/60% = Rs.5,00,000

(ii) Contribution during the second half-year = Fixed Cost + Profit

= Rs. 9,00,000 + (- Rs. 1,50,000) = Rs. 7,50,000

Expected Sales = (Contribution) / (P/V Ratio)

= Rs. 7,50,000/60% = Rs.12,50,000

(iii) Break Even Point for the whole year = Fixed Cost for the whole year/(P/V Ratio)

= Rs. 18,00,000/60% = Rs. 30,00,000

Margin of Safety = Sales- Break Even Point

= Rs. 32,50,000 – Rs. 30,00,000 = Rs.2,50,000

Or Margin of Safety = (Profit)/ (P/V Ratio) = Rs. 1,50,000/60% = Rs.2,50,000

7. (a) BENCO LTD. a manufacturing concern which has adopted standard costing furnishes the following information for the month ending March 31, 2019:

The standard mix to produce one unit of product Z is as under—

Material A 30kg @ Rs. 30 per kg

Material B 40kg @ Rs. 50 per kg

Material C 50kg @ Rs. 40 per kg

During the month of December 2018, 10 units of product Z were actually produced and consumption was as under—

Material A 320kg @ Rs. 35 per kg

Material B 475kg @ Rs. 55 per kg

Material C 435kg @ Rs. 36 per kg

Required:

Calculate the following Material Variances:

(i) Material Cost Variance

(ii) Material Price Variance

(iii) Material Usage Variance

(iv) Material Mix Variance

(v) Material Yield Variance **8**

(b) ANKRITI LTD. manufactures product X and product Y during the year ending on 31st March, 2019. It is expected to sell 7500 kg of product X and 37500 kg of product Y @ Rs. 60 and Rs. 32 per kg respectively.

The direct materials A, B and C are mixed in the proportion of 4:4:2 in the manufacture of Product X and in the proportion of 3:5:2 in the manufacture of product Y. The actual and budget inventories for the year are as follows:

Particulars	Opening Stock (kg)	Expected Closing Stock (kg)	Anticipated Cost per kg (Rs.)
Material A	**3000**	**2400**	**10**
Material B	**2500**	**5800**	**8**
Material C	**16000**	**17300**	**6**
Product X	**1500**	**2000**	**—**
Product Y	**3000**	**3500**	**—**

Required:

Prepare the Production Budget and Materials Budget showing the purchase cost of materials for the year ending 31st March, 2019. **7**

Answer:

7. (a) Statement showing Standard and Actual Material Cost

	Standard for 10 Units			Actual for 10 Units		
Material	Quantity (Units)	Rate (Rs.)	Amount (Rs.)	Quantity (Units)	Rate (Rs.)	Amount (Rs.)
A	300	30	9,000	320	35	11,200
B	400	50	20,000	475	55	26,125
C	500	40	20,000	435	36	15,660
Total	1,200		49,000	1,230		52,985

(i) Material Cost Variance = Standard Cost – Actual Cost
= Rs.49,000 – Rs.52,985 = Rs.3,985 (A)

(ii) Material Price Variance = Actual Quantity (Standard Price – Actual Price)
Material A = 320 (Rs. 30 – 35) = Rs. 1,600 (A)
Material B = 475 (Rs. 50 – 55)=Rs. 2,375 (A)
Material C= 435 (Rs. 40 – 36) = Rs. 1,740 (F)
= Rs.2,235 (A)

(iii) Material Usage Variance = Standard Price (Standard Quantity – Actual Quantity)
Material A = 30 (Rs. 300 – 320) = Rs. 600 (A)
Material B = 50 (Rs. 400 – 475)=Rs. 3,750 (A)
Material C= 40 (Rs. 500 – 435) = Rs. 2,600 (F)
= Rs.1,750 (A)

(iv) Material Mix Variance = Standard Price (Revised Std. Quantity – Actual Quantity)
Material A = 30 (Rs. 307.50 – 320) = Rs. 375 (A)
Material B = 50 (Rs. 410 – 475) = Rs. 3,250 (A)
Material C= 40 (Rs. 512.50 – 435) = Rs. 3,100 (F)
= Rs.525 (A)

Note: Revised Standard Quantity (RSQ) is calculated as under:
Material A $=\frac{1,230}{1,200} \times (300) = 307.50$kg
Material B $=\frac{1,230}{1,200} \times (400) = 410$ kg
Material C $=\frac{1,230}{1,200} \times (500) = 512.50$kg

(v) Material Yield Variance = Standard Cost per Unit (Actual Yield – Standard Yield)
Rs. 4,900 (10 – 10.25) = Rs. 1,225 (A)

Note:
(a) Standard Material Cost per Unit of output = Rs. 49,000/10 = Rs. 4,900
(b) Standard Yield = Actual usage of material/ Standard usage per Unit of output
= 1,230/120 = 10.25 Units

(b)

Production Budget for the Year ending 31st March 2019

Particulars	Product – X ((kgs.)	Product – Y (kgs.)
Sales	7,500	37,500
Add: Closing Stock	2,000	3,500
Sub-total	9,500	41,000
Less: Opening tock	1,500	3,000
Production	8,000	38,000

(c)

Materials Purchase Budget
(for the year ending 31st March 2019)

Particulars	A	B	C	Total
Materials required for product-X in the ratio of 4:4:2	3,200	3,200	1,600	8,000
Materials required for product-Y in the ratio of 3:5:2	11,400	19,000	7,600	38,000

Total requirement	14,600	22,200	9,200	
Add: Closing Stock	2,400	5,800	17,300	
	17,000	28,000	26,500	
Less: Opening Stock	3,000	2,500	16,000	
Purchases (Kgs)	14,000	25,500	10,500	
Cost per Kg (Rs.)	10	8	6	
Total Purchase Cost (Rs.)	1,40,000	2,04,000	63,000	Rs. 4,07,000

8. Answer any three out of the following four questions: 5×3=15

(a) Distinguish between Cost Allocation and Cost Apportionment.
(b) State the main objectives of Cost Accounting,
(c) List out the various measures to reduce the Labour Turnover (any five).
(d) Write a brief note on Master Budget.

Answer:

8. (a) Difference between Cost Allocation and Cost Apportionment:

Cost Allocation: When items of cost are identifiable directly with some products or departments such costs are charged to such cost centres. This process is known as cost allocation. Wages paid to workers of service department can be allocated to the particular department. Indirect materials used by a particular department can also be allocated to that department. Cost allocation calls for two basic factors - (i) Concerned department/product should have caused the cost to be incurred, and (ii) exact amount of cost should be computable.

Cost Apportionment: When items of cost cannot directly be charged to or be accurately identifiable with any cost centres, they are prorated or distributed amongst the cost centres on some pre-determined basis. This method is known as cost apportionment. Thus, items of indirect costs residual to the process of cost allocation are covered by cost apportionment. The pre-determination of suitable basis of apportionment is very important and usually following principles are adopted - (i) Service or use, (ii) Survey method, or (iii) Ability to bear. The basis ultimately adopted should ensure an equitable share of common expenses for the cost centres and the basis once adopted should be reviewed at periodic intervals to improve upon the accuracy of apportionment.

OR (Alternative)

Cost Allocation: CIMA defines Cost Allocation as, " the charging of discrete, identifiable items of cost to cost centres or cost units." In simple words complete distribution of an item of overhead to the departments or products on logical or equitable basis is called allocation. Where a cost can clearly be identified with a Cost Centre or Cost unit, then it can be allocated to that particular Cost Centre or

Cost Unit. In other words, allocation is the process by which cost items are charged directly

to a Cost Unit or Cost Centre. For example, electricity charges can be allocated to various departments if separate meters are installed, depreciation of machinery can be allocated to various departments as the machines can be identified, salary of stores clerk can be allocated to stores department, cost of coal used in boiler can directly be allocated to boiler house division. Thus allocation is a direct process of identifying overheads to cost units or cost centres. So the term allocation means allotment of whole item of cost to a particular cost centre or cost object without any division.

Cost Apportionment:

Cost Apportionment is the allotment of proportions of items to Cost Centres. Wherever possible, the overheads are to be allocated. However, if it is not possible to charge the overheads to a particular Cost Centre or Cost Unit, they are to be apportioned to various departments on some suitable basis.

This process is called "Apportionment" of overheads. The basis for apportionment is normally predetermined and is decided after a careful study of relationship between the base and the other variables within the organisation. The Cost Accountant must ensure that the selected basis is the most logical. A lot of quantitative information has to be collected and constantly updated for the purpose of apportionment. The basis selected should be applied consistently to avoid vitiation.

However, there should be a periodical review of the same to revise the basis if needed.In simple words, distribution of various items of overheads in portions to the departments or products on logical or equitable basis is called apportionment.A general example of various bases that may be used for the purpose of apportionment is shown below:

Overhead item	Basis
Rent and Building	Floor space occupied by each department
General Lighting	No. of light points in each department
Telephones	No. of extensions in a department
Depreciation of factory building	Floor space
Material handling	No. of material requisitions or Value of material used

The above list is not exhaustive and depending upon peculiarities of the organisation, it could be extended. This allocation and/or apportionment is called primary distribution of overheads.

OR (Alternative)

Note: The question asks: Distinguish between Cost Allocation and Cost Apportionment.

Distinction between Cost Allocation and Cost Apportionment:

Although the purpose of both allocation and apportionment is identical, that is to identify or allot the costs to the Cost Centres or Cost Units, both are not the same.

Allocation deals with the whole items of cost and apportionment deals with proportion of items of cost.

Allocation is direct process of departmentalisation of overheads, whereas apportionment needs a suitable basis for sub-division of the cost.

Whether a particular item of expense can be allocated or apportioned does not depend on

the nature of expense, but depends on the relation with the Cost Centre or Cost Unit to which it is to be charged.

(b) Main Objectives of Cost Accounting:

The main objectives of cost accounting are as under:

(i) To ascertain the costs under different situations using different techniques and systems of costing.
(ii) To determine the selling prices under different circumstances.
(iii) To determine and control efficiency by setting standards for Materials, Labour and Overheads.
(iv) To determine the value of closing inventory for preparing financial statements of the concern.
(v) To provide a basis for operating policies of the concern

(c) **Measures to Reduce Labour Turnover:**

Labour Turnover may be reduced by removing its avoidable causes and taking preventive remedial measures.

The various measures may be as under:

(i) Efficient, sympathetic and impartial personnel administration.
(ii) Effective communication system to keep the workers informed on matters that affect them.
(iii) Improving working conditions and placing the right man on the right job.
(iv) Job enrichment to reduce boredom and monotony and to provide job satisfaction.
(v) Introducing fair rates of pay and allowance/s and incentives, pension, gratuity etc.
(vi) Strengthening welfare measures.
(vii) Augmenting recreational activities and schemes.

(d) Master Budget:

Master Budget is the budget prepared to cover all the functions of the business organization. It can be taken as the integrated budget of business concern, that means, it shows the profit or loss and financial position of the business concern such as Budgeted Profit and Loss Account, Budgeted Balance Sheet etc. Master budget, also known as summary budget or finalized profit plan, combines all the budgets for a period into one harmonious unit and thus, it shows the overall budget plan.

The master budget incorporates all the subsidiary functional budgets and the Budgeted Profit and Loss Account and Budgeted Balance Sheet. Before the budget plan is put into operation, the master budget is considered by the management and revised if the position of profit disclosed therein is not found to be satisfactory. After suitable revision made, the Master Budget is finally approved and put into action.