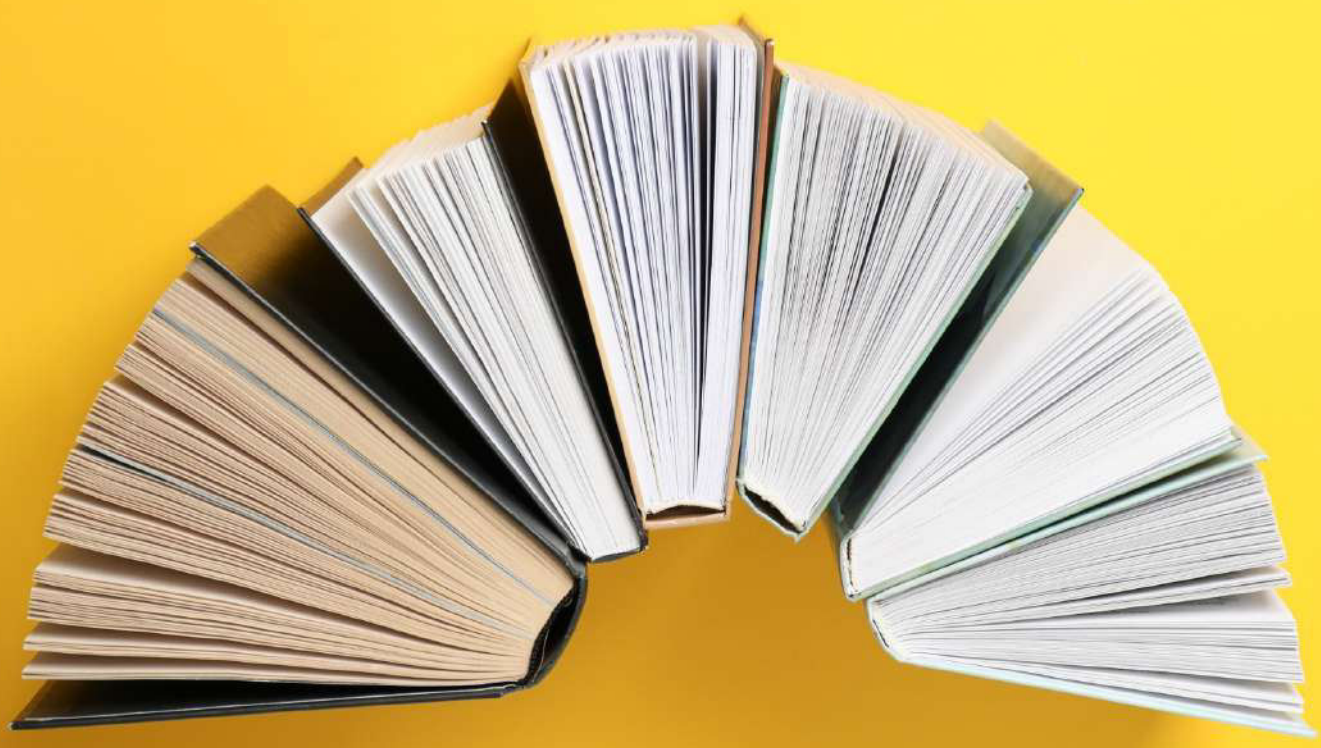
Cost Accounting Suggested Answers Compilation

by

Budding CMA



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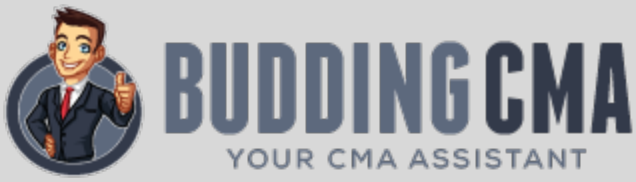

INTERMEDIATE EXAMINATION
GROUP -II
(SYLLABUS 2016)

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 Romannumeral and the alphabet chosen for your answer): 1×10=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,indirectexpenses**
- **(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.**

(vi) When you attempt a reconciliation of profits as per Financial Accounts and Cost Accounts, the following is done:
- (A) Add the under absorption of overheads in Cost Accounts if you start from the profits as per Financial Accounts.
- (B) Add the under absorption of overheads in Cost Accounts if you start from the profits as per Cost Accounts.
- (C) Add the over absorption of overheads in Cost Accounts if you start from the profits as per Financial Accounts.
- (D) 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:
- (A) paper manufacturing
- (B) drug manufacturing
- (C) designer clothes manufacturing
- (D) oil refining

(viii) In the context of Contract a/c, work completed and not yet certified will beshown
- (A) at cost plus + 2/3rd of the notional profit under 'Completed Work'.
- (B) at cost plus notional profit less retention money under 'Completed Work'.
- (C) at cost under 'Completed Work'.
- (D) 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
- (A) Adverse
- (B) Favourable
- (C) Zero
- (D) 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
- (A) non-existing
- (B) sales demand
- (C) raw materials
- (D) 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 ofchange).

(xxii) In the graph showing the angle of incidence, when the quantity is zero, the total costline 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 isdebited 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:

Suggested Answer_Syllabus 2016_Jun2017_Paper 8

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). 8

(b) A factory has 3 production departments (P_1,P_2, P_3) and 2 service departments (S_1&S_2). 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 $S_1$and S_2use 10% of each other's facilities, find the total cost of$S_1$by the simultaneous equation method. 7

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

1,30,000 value of closing stock under LIFO method	8,48,000

(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

$S_1 = 3,060 + 0.1\ S_2$
$S_2 = 1,690 + 0.1\ S_1$
$S_1 = 3,060 + 0.1\ (1690 + 0.1\ S_1) = 3,060 + 169 + 0.01\ S_1$
$\therefore 0.99\ S_1 = 3,229 \quad \therefore S_1 = 3,229 / 0.99 = 3,261.62$
$\therefore S_2 = 1,690 + 326.16 = 2,016.16$

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**	

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 at50% of factory overhead. The selling price is fixed by adding 25% on the total cost ofmanufactured 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). 6

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	₹

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? 8

(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	-

7

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Answer:

4. (a) (i)

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

(ii)

Hence, number of Set- ups = 48,000 ÷ 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 X (3693 /2) X 12	= 44,316
Set up cost = 13 X 3600	= 46,800
Total relevant cost	= 91,116
Overall Cost as per (ii) of Question	
Carrying cost = 1,200/2 X 12 X 2	= 14,400
Set up cost = 4,800* X 13	= 62,400
Total relevant cost	= 76,800
Saving in (ii) over (i)	= 14,316

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

(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

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. 8

(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

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 changes per annum:		
Road licence	750	750
Supervisor's salary	1,800	1,200
Garage rent	1,600	550
Insurance	850	500
Interest	2,500	1,500
	7,500	4,500
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 changes	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

***** % 0f Work completed:

(20,000 / 35,000) × 100 = 57.14%
∴ 2/3rd Profit (Notional)
3,324 × (2/3) × (15,000 Cash received)/ 20,000 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 **8**

(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

7

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

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**

Suggested Answer_Syllabus 2016_Jun2017_Paper 8

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

	1600000

SQ for A = $\frac{18818.18}{41818.18}$ x 40000=18000
SQ for B = $\frac{16727.27}{41818.18}$ x 40000=16000
SQ for C = $\frac{10454.55}{41818.18}$ x 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.

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 incurredin connection with any self generated or procured resources shall not form part ofthe 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 MarginalCosting 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 underabsorption costing, a portion of the earlier period's overheads will be included in the opening stockvalue.

(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:

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 costor they could be indirect, like selling expenses, variable factory overheads, etc. when they are calledvariable overheads.

Semi-Variable costs:
These contain both fixed and variable elements. The variable elements behave like the Variable Cost andthe fixed element behaves like the Fixed Cost. The sum total therefore varies with change in activity, butnot in the same proportion as variable costs.
Example: Factory supervision, maintenance, etc

INTERMEDIATE EXAMINATION
GROUP -I
(SYLLABUS 2016)

SUGGESTED ANSWERS TO QUESTIONS

DECEMBER- 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):* **1×10=10**

(i) Cost of idle time arising due to non-availability of raw material is
(A) recovered by inflating the raw material rate.
(B) recovered by inflating the wage rate.
(C) charged to factory overheads.
(D) charged to costing profit and loss account.

(ii) Selling and distribution overheads are absorbed on the basis of
(A) rate per unit.
(B) percentage on works cost.
(C) percentage on selling price of each unit.
(D) Any of the above

(iii) What entry will be passed under integrated system for purchase of stores on credit?
(A) Dr. Stores
Cr. Creditors
(B) Dr. Purchases
Cr. Creditors
(C) Dr. Stores Ledger Control A/c
Cr. Creditors
(D) Dr. Stores Ledger Control A/c
Cr. General Ledger Adjustment A/c

(iv) In a process 800 units are introduced during 2016-17. 5% of input is normal loss. Closing work-in-progress 60% complete is 100 units. 660 completed units are transferred to next process. Equivalent production for the period is
(A) 760 units
(B) 744 units
(C) 540 units
(D) 720 units

(v) _____ deals with the principles and methods of determining the production or operation overheads.
(A) CAS-3
(B) CAS-5
(C) CAS-9
(D) CAS-16

(vi) There is a loss as per financial accounts Rs.10,600, donations not shown in cost accounts Rs. 6,000. What would be the profit or loss as per cost accounts?
(A) Loss Rs. 16,600
(B) Profit Rs. 16,600
(C) Loss Rs. 4,600
(D) Profit Rs. 4,600

(vii) A hotel having 100 rooms of which 80% are normally occupied in summer and 25% in winter. Period of summer and winter be taken as 6 months each and normal days in a month be assumed to be 30. The total occupied room days will be
(A) 1525 Room days
(B) 18900 Room days
(C) 36000 Room days
(D) None of the above

(viii) A firm has fixed expenses Rs. 90,000, sales Rs. 3,00,000 and profit Rs. 60,000. The P/V ratio of the firm is
(A) 10%
(B) 20%
(C) 30%
(D) 50%

(ix) Marginal costing technique follows the following basis of classification:
(A) Element-wise
(B) Function-wise
(C) Behaviour-wise
(D) Identifiability-wise

(x) Which of the following is not a potential benefits of using a budget?
(A) More motivated managers
(B) Enhanced co-ordination of firm activities
(C) Improved inter-departmental communication
(D) More accurate external financial statements

(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 the alphabet instead of copying contents into the answer Books) 1x5=5

	Column I		Column II
(i)	Component of Cost Sheet	(A)	High initial costs
(ii)	Objective of Cost Accounting	(B)	Classification of cost
(iii)	CAS1	(C)	In terms of completed units
(iv)	Equivalent Production	(D)	Reference to the job
(v)	De-merit of a centralized purchase organization	(E)	To determine the value of closing inventory

(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) By-products may undergo further processing before sale.
(ii) Materials which can be identified with the given product unit of cost centre is called as indirect materials.
(iii) Increasing Labour Turnover increases the productivity of labour resulting in low costs.
(iv) In case of materials that suffers loss in weight due to evaporation etc. the issue price of the materials is inflated to cover up the losses
(v) Penalties and fines are included in cost accounts to determine the cost of production.

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

(i) In standard costs, _____ norm is applied as a scale of reference for assessing actual cost to serve as a basis of cost control.
(ii) Material Transfer Note is a _____ for transferring the materials from one job to other job.
(iii) One of the disadvantages of overtime working is incurring _____ labour cost.
(iv) CAS-2 deals with Cost Accounting Standard on _____ determination.
(v) Where the cost and financial accounts are maintained independently of each other, it is indispensable to _____ them, as there are differences in the profits of two sets of books.

Answer:

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

(b)

	Column I		Column II
(i)	Component of Cost Sheet	(D)	Reference to the job
(ii)	Objective of Cost Accounting	(E)	To determine the value of closing inventory
(iii)	CAS1	(B)	Classification of cost
(iv)	Equivalent Production	(C)	In terms of completed units
(v)	De-merit of a centralized purchase organization	(A)	High initial costs

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

(d) (i) predetermined
(ii) document
(iii) excess (or additional or more or higher)
(iv) capacity
(v) reconcile

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2017_PAPER-8

Section - B

Answer any five questions from question numbers 2 to 8.
Each question carries 15 marks. ***15 x 5=75***

2. (a) From the following particulars with respect to a particular item of materials of a manufacturing company, calculate the best quantity to order:

Ordering quantities (tonne)	Price per ton (Rs.)
Less than 250	6.00
250 but less than 800	5.90
800 but less than 2,000	5.80
2,000 but less than 4,000	5.70
4,000 and above	5.60

The annual demand for the material is 4,000 tonnes. Stock holding costs are 25% of material cost p.a. The delivery cost per order is Rs. 6.00. 8

(b) The summary as per primary distribution is as follows:

Production departments A- Rs. 2,500; B- Rs. 2,300 & C- Rs. 1,700
Service departments X–Rs. 700; Y–Rs. 900
Expenses of service departments are distributed in the ratios of:
X department: A- 20%, B- 40%, C- 30% and Y- 10%
Y department: A- 40%, B- 20%, C- 20% and X- 20%
Show the distribution of service costs among A, B and C under repeated distribution method. 7

Answer:

2. (a)

Statement showing computation of total inventory cost at different order size

		Ordering Quantities				
	Particulars	200	250	800	2,000	4,000
(i)	Purchasing cost	24,000	23,600	23,200	22,800	22,400
(ii)	No. of orders	20	16	5	2	1
(iii)	Ordering Cost	120	96	30	12	6
(iv)	Average size of orders	100	125	400	1,000	2,000
(v)	Inventory carrying cost per unit	1.5 (6x25%)	1.475 (5.9x25%)	1.45 (5.8x25%)	1.425 (5.7x25%)	1.4 (5.6x25%)
(vi)	Inventory carrying cost (iv)x (v)	150	184.375	580	1,425	2,800
(vii)	Total inventory cost (i)+(iii)+(vi)	24,270	23,880	23,810	24,237	25,206

For the above computations the best quantity to order is 800 units.

Note: Minimum ordering quantity assumed to be 200 tons; it may be any quantity below 250 tons, but the decision will remain same.

(b)

	Particulars	Production departments			Service departments	
		A	B	C	X	Y
		Rs.	Rs.	Rs.	Rs.	Rs.
1	As per primary distribution	2,500	2,300	1,700	700	900
2	Service Dept. X	140	280	210	(700)	70
3	Service Dept. Y	388	194	194	194	(970)
4	Service Dept. X	38.8	77.6	58.2	(194)	19.4
5	Service Dept. Y	7.76	3.88	3.88	3.88	(19.4)
6	Service Dept. X	0.776	1.552	1.164	(3.88)	0.388
7	Total	3,075.336	2,857.032	2,167.244	0	0.388

It can be noticed that the undistributed balance in service department is very negligible and thus can be ignored for further distribution.

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2017_PAPER-8

3. (a) How would you treat overtime in cost records as per CAS-7? 5

(b) The following is the Trading & Profit and Loss Account of Ram & Co.:

Particulars	Rs.	Particulars	Rs.
To Materials consumed	23,01,000	By Sales (30000 units)	48,75,000
To Direct wages	12,05,750	By Stock of Finished goods (1000 units)	1,30,000
To Production overheads	6,92,250	By W.I.P: ₹ Material 55,250 Wages 26,000 Prod. O. H. 16,250	97,500
To Administration Overheads	3,10,375	By Interest on Bank deposit	65,000
To Selling & Distribution Overheads	3,68,875	By Dividends	3,90,000
To Preliminary expenses written off	22,790		
To Goodwill written off	45,000		
To Fines	3,250		
To Interest of mortgage	13,000		
To Loss on sale of machine	16,250		
To Taxation	1,95,000		
To Net Profit	3,83,960		
	55,57,500		55,57,500

Ram & Co. manufactures a standard unit. The cost accounting records of the firm shows the following information:

(i) Production overheads have been charged at 20% on prime cost.

(ii) Administration overheads have been recovered at Rs. 9.75 per finished unit.

(iii) Selling and distribution overheads have been recovered at Rs. 13 per unit sold.

Required:

(i) Prepare a statement showing cost and profit as per cost records.

(ii) Prepare a statement reconciling the profit disclosed by cost accounts with that shown in financial accounts. 10

Answer:

3. (a) **Treatment of overtime in Cost Records :** As per CAS-7, Overtime Premium shall be assigned directly to the cost object or treated as overheads depending on the economic feasibility and specific circumstances requiring such overtime.

When overtime is worked due to exigencies or urgencies of the work, the basic/normal payment is treated as Direct Labour Cost and charged to Production or cost unit on which the worker is employed. Whereas the amount of premium (extra amount) is treated as overhead.

If overtime is spent at the request of the customer, then the entire amount (including over time premium) is treated as direct wages and should be charged to the job.

When the overtime is worked due to lack of capacity as general policy of the company thenthe total amount paid is treated as direct wages which is computed at the estimated rate based on the figures of the previous years.

Overtime worked on account of the abnormal conditions such as flood, earthquake, etc., should not be charged to cost, but to Costing Profit and Loss Account if integrated accounts are maintained.
It will thus be seen that overtime involves payment of increased wages and should be resorted to only when extremely essential.

(b) (i) Statement Showing Cost and Profit in Cost Records

Production 31,000 units

Particulars	Amount (Rs.)		
	Total	W.I.P.	Production
Material Consumed	23,01,000	55,250	22,45,750
Wages	12,05,750	26,000	11,79,750
Prime Cost	35,06,750	81,250	34,25,500
Add: Production Overhead (20% on prime cost)	7,01,350	16,250	6,85,100
Works Cost	42,08,100	97,500	41,10,600
Add: Administration Overhead @ Rs. 9.75 per unit			3,02,250
Cost of Production			44,12,850
Less: Closing Stock = $\frac{44,12,850 \times 1,000}{31,000}$			1,42,350
Production Cost of Goods Sold			42,70,500
Add: Selling and Distribution Overhead (30,000×13)			3,90,000
Cost of Sales			46,60,500
Profit			2,14,500
Sales			48,75,000

(ii) Reconciliation Statement

Particulars	Rs.	Rs.
Net Profit as per Cost Accounts		2,14,500
Add:(i) Excess Production Overhead in Cost Records [6,85,100 - (6,92,250 - 16,250 WIP)]	9,100	
(ii) Excess selling overhead in Cost Records [3,90,000-3,68,875]	21,125	
(iii) Interest on bank deposits not included in Cost Books	65,000	
(iv) Dividend not shown in Cost Books	3,90,000	4,85,225
		6,99,725
Less:(i)Administration Overhead under-recovered in CostBooks (3,10,375 - 3,02,250)	8,125	
(ii)Closing stock overvalued in Financial Books(1,42,350-1,30,000)	12,350	
(iii) Preliminary expenses written off in Financial Books only	22,790	
(iv) Goodwill written off in Financial Books only	45,000	
(v) Fines shown in Financial Books only	3,250	
(vi) Interest charged in Financial Books only	13,000	
(vii)Loss on sale of machine shown in Financial Books only	16,250	
(viii)Income tax provided in financial books only;	1,95,000	3,15,765
Profit as per Financial Books		3,83,960

4. (a) Component 'Citipride' is made entirely in cost centre 200. Material cost is 6 paise per component and each component takes 10 minutes to produce. The machine operator is paid 72 paise per hour, and machine hour rate is Rs. 1.50. The setting up of the machine to produce the component 'Citipride' takes 2 hours 30 minutes. On the basis of this information, prepare a cost sheet showing the production and setting up cost, both in total and per component, assuming that a batch of:

(i) 10 components,

(ii) 100 components, and

(iii) 1000 components is produced. **9**

(b) SG Ltd. manufactures product A which yields two by-products B and C. The actual joint expenses of manufacturing for a period were Rs. 9,000.

The profits on each product as a percentage of sales are 33-1/3%, 25% and 15% respectively.

Subsequent expenses are as follows:

	Products (Rs.)		
Particulars	**'A'**	**'B'**	**'C'**
Material	**100**	**75**	**25**
Direct	**200**	**125**	**50**
Overheads	**150**	**125**	**75**
Total	**450**	**325**	**150**
Sales	**6,300**	**4,800**	**2,500**

Apportion the joint expenses. **6**

Answer:

4. (a)

Cost Sheet Component 'Citipride'

Particulars	Batch Size					
	10 components		100 components		1000 components	
	Total Rs.	Per component Rs.	Total Rs.	Per component Rs.	Total Rs.	Per component Rs.
A. Setting up Cost:						
Machine Operators wages (2.5 hours @ Re. 0.72 p.h)	1.80	0.180	1.80	0.0180	1.80	0.00180
Overheads 2.5 hours @ Rs. 1.50 p.h)	3.75	0.375	3.75	0.0375	3.75	0.00375
Total of (A)	5.55	0.555	5.55	0.0555	5.55	0.00555
B. Production Cost:						
Material Cost @ Re. 0.06 per component	0.60	0.060	6.00	0.0600	60.00	0.06000
MachineOperators Wages [(Refer to Working Note (1)]	1.20	0.120	12.00	0.1200	120.00	0.12000
Overheads						
[(Refer to Working Note (2)]	2.50	0.250	25.00	0.2500	250.00	0.25000
Total of (B)	4.30	0.430	43.00	0.4300	430.00	0.43000
C. Total Cost: (A +B)	9.85	0.985	48.55	0.4855	435.55	0.43555

Working Notes:

	10 Components	100 Components	1000 Components
(1) Operators Wages Time taken in minutes by machine operators @10 minutes per component Operators Wages @ Re. 0.72 per hour (Rs.)	1.20 [(100/60)x0.72]	12.00 [(1000/60)x0.72]	120.00 [(10000/60)x0.72]
(2) Overhead expenses Total overhead expenses @ Rs.1.50 per Machine hour (Rs.)	2.50 [(100/60)xRs.1.50]	25.00 [(1000/60)xRs.1.50]	250.00 [(10000/60)xRs. 1.50]

(b) Statement Showing Apportionment of Joint Expenses

Particulars	A	B	C	Total
Sales	6,300	4,800	2,500	13,600
(-) Profit	2,100	1,200	375	3,675
Total Cost (Joint & Separate Cost)	4,200	3,600	2,125	9,925
Separate Expenses	450	325	150	925
Share of Joint Expenses	3,750	3,275	1,975	9,000

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2017_PAPER-8

5. (a) Shri Rajesh Agarwal has started transport business with a fleet of 10 taxies. The various expenses incurred by him are given below:

(i) Cost of each taxi Rs. 3,00,000.
(ii) Salary of Office Staff Rs. 5,000 p.m.
(iii) Salary of Garage's Supervisor Rs. 10,000 p.m.
(iv) Rent of Garage Rs. 5,000 p.m.
(v) Drivers Salary (per taxi) Rs. 10,000 p.m.
(vi) Road Tax and Repairs per taxi Rs. 6,000 p.a.
(vii)Insurance premium @ 6% of cost p.a.

The life of a taxi is 300000 Km. and at the end of which it is estimated to be sold at Rs. 25,000. A taxi runs on an average 6000 Km. per month of which 10% it runs empty, petrol consumption 11 Km. per litre of petrol costing Rs. 72 per litre. Oil and other sundry expenses amount to Rs. 50 per 100 Km.

Calculate the effective cost of running a taxi per kilometre. If the hire charge is Rs. 13 per kilometre on average, find out the profit that Shri Agarwal may expect to make in the firstyear of operation. 8

(b) A contractor has undertaken a construction work at a price of Rs. 5,00,000 and begun the execution of work on 1st January, 2016. The following are the particulars of the contract up to 31st December, 2016.

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
Machinery	30,000	Overheads	8,252
Materials	1,70,698	Materials returned	3,098
Wages	1,48,750	Work certified	3,90,000
Direct expenses	6,334	Cash received	3,60,000
Uncertified work	9,000	Materials on 31.12.2016	3,766
Wages outstanding	5,380		
Value of plant on 31.12.2016	23,000		

It was decided that the profit made on the contract in the year should be arrived at by deducting the cost of work certified from the total value of the architect's certificate, that1/3 of the profit so arrived at should be regarded as a provision against contingencies and that such provision should be increased by taking to the credit of Profit and Loss Account only such portion of the 2/3rd profit, as the cash received to the work certified. Prepare the Contract Account showing the profit on the Contract. 7

Answer:

5. (a) Statement showing computation of effective cost and profit for the year:

Particulars	Amount (Rs.)	Amount (Rs.)
Fixed expenses:		
Salary of staff	5,000	
Salary of garage supervisor	10,000	
Rent of garage	5,000	
Driver Salary (10 x 10,000)	1,00,000	
Road tax and repairs (6,000 x 10/12)	5,000	
Insurance premium (3,00,000 x 6% x 10/12)	15,000	1,40,000
Fixed cost of 10 taxis per month Cost per taxi = Rs. 1,40,000/10 = Rs. 14,000 Cost per km = 14,000/6,000 = 2.33 (Alternatively, Fixed Cost per Taxi may be worked out directly)		2.33
Running Costs:		
Depreciation [(3,00,000-25,000) / 3,00,000]		0.92
Petrol (72/11)		6.55
Oil & sundry expenses (50/100)		0.50
Cost		10.30
Effective cost per Km = 10.30 x (100/90)		11.44

Profit for year = (13.00 - 1 1.44) x 10 x 5,400 x 12 = Rs.10,10,880

(b)

Contract Account

Dr. Cr.

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To, Machinery A/c	30,000	By, Plant & Machinery A/c	23,000
To, Materials A/c	1,70,698	By, Materials returned A/c	3,098
To,Wages incl.outstandingA/c	1,54,130	By, Materials on hand A/c	3,766
To, Direct Expenses A/c	6,334	By, W.I.P A/c	3,99,000
To, Overheads A/c	8,252	Work certified 3,90,000	
To, P&L A/c	36,585*	Work uncertified 9,000	
To, Reserve c/d	22,865*		
	4,28,864		4,28,864

***** Total Cost = Expenses before Profit and Reserve = Rs. 3,69,414 – Rs. 29,864 credits
∴ Total Expenses= Rs. 3,39,550 .
Hence, Total Cost = Rs. 3,99,000 WIP – Rs. 3,39,550 =Rs. 59,450
or
Alternatively, Total including WIP = Rs. 4,28,864 – Rs. 3,69,414 = Rs. 59,450

$\frac{\text{Cash Received}}{\text{Work Certified}} = \frac{3,60,000}{3,90,000} = 0.92308$
∴ Rs. 59,450 × 0.92308 = Rs. 54,877 ∴ $\frac{2}{3}$rd of Rs. 54,877 = Rs.36,585 Profit
Hence, Balance (Rs. 59,450 – Rs. 36,585)= Rs. 22,865 is Reserve

6. (a) Following particulars relate to a manufacturing factory for the month of March, 2017

Variable cost per unit	**Rs. 14**
Fixed factory overhead	**Rs. 5,40,000**
Fixed selling overhead	**Rs. 2,52,000**
Sales price per unit	**Rs. 20**

(i) What is the break-even point expressed in rupee sales?
(ii) How many units be sold to earn a target net income of Rs. 60,000 per month?
(iii) How many units must be sold to earn a net income of 25% on cost?
(iv) What should be the selling price per unit if break-even point is to be brought down to 120000 units? 8

(b) There are three similar plants under one Corporate Management who wants them to be merged for better operation. The following are the details relating to these plants.

	Plant A	Plant B	Plant C
Capacity in Operation	**100%**	**70%**	**50%**
	(Rs. in lakhs)		
Turnover	**300**	**280**	**150**
Variable Cost	**200**	**210**	**75**
Fixed Cost	**70**	**50**	**62**

You are required to calculate:
(i) Capacity of merged plant to be operated to break-even;
(ii) Profitability of working at 75% capacity;
(iii) The turnover from the merged plant to give a profit of Rs. 28 lakhs. 7

Answer:

6. (a) (i) Calculation of BEP in rupee sales:

$$\text{P/V Ratio} = \frac{S-V}{S} = \frac{20-14}{20} \times 100 = 30\%$$

$$\text{BEP} = \frac{F}{\text{P / V Ratio}} = \frac{5,40,000 + 2,52,000}{30\%} = \text{Rs. } 26,40,000$$

(ii) Sales to earn a target net income of Rs. 60,000 per month:
Contribution per unit = Rs. 20 – Rs. 14 = Rs. 6.

$$\text{Sales in units} = \frac{\text{F + Desired Profit}}{\text{Contribution per unit}} = \frac{7,92,000 + 60,000}{6} = 1,42,000 \text{ units.}$$

(Sales in Rupees = 1,42,000 × Rs. 20 = Rs. 28,40,000.)→ This is optional

(iii) No. of units to be sold to earn a net income of 25% on cost:
Profit @ 25% on cost means a profit @ 20% on Sales. Let sales be assumed as Rs. x; the desired profit will be 20% of x or .20x.

$$\text{Now, } x = \frac{\text{F + Desired Profit}}{\text{P / V Ratio}}$$

$$\text{Or } x = \frac{7,92,000 + 0.20x}{1} \times \frac{100}{30}$$

or 30x = 7,92,00,000 + 20x
or 10x = Rs. 7,92,00,000
or x = Rs. 79,20,000

$$\text{No. of units to be sold} = \frac{79,20,000}{20 \text{ (S.P. per unit)}} = 3,96,000 \text{ units}$$

(iv) Selling Price per unit if BEP is brought down to 1,20,000 units :

$$\text{Contribution per unit} = \frac{\text{Fixed Cost}}{\text{BEP in units}} = \frac{7,92,000}{1,20,000} = 6.60 \text{ per unit.}$$

Now, S.P. per unit = V + C = Rs.14 + Rs. 6.60 = Rs. 20.60.

(b) Computation of Sales and Variable Costs for Plants B and C at 100 per cent capacity of working. (Rs. in lakhs)

Capacity	Plant A	Plant B	Plant C	Merged Plant
	100%	100%	100%	100%
Sales	300	400	300	1,000
Less: Variable Cost at 100% Capacity	200	300	150	650
Contribution	100	100	150	350
Less: Fixed Cost	70	50	62	182
Profit	30	50	88	168

(i) $\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100 = \frac{350}{1,000} \times 100 = 35\%$

$$\text{BEP (in Rs.)} = \frac{\text{Fixed Cost}}{\text{P / V ratio}} = \frac{182}{35\%} = \text{Rs. } 520 \text{ lakh}$$

$$\text{Capacity of Rs. 520 lakhs to total sales Rs. 1,000 lakhs} = \frac{520}{1,000} \times 100 = 52\%.$$

(ii) Sales at 75% capacity = Rs. 750 lakhs
P = (Sales × P/V ratio) – Fixed Cost

$= 750 \times \frac{35}{100} - 182$ or 262.5 – 182 = Rs. 80.5 lakhs.

(iii) Sales to earn a profit of Rs. 28 lakhs.

$$\text{Sales} = \frac{\text{Fixed Cost + Desired Profit}}{\text{P / V Ratio}} = \frac{182 + 28}{35\%} = \frac{210}{35\%} = 600 \text{ lakhs.}$$

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2017_PAPER-8

7. (a) The details regarding the composition and the weekly wage rates of labour force engaged on a job scheduled to be completed in 30 weeks are as follows:

Category of Workers	Standard		Actual	
	No. of Workers	Weekly Wage Rate per worker	No. of Workers	Weekly Wage Rate per worker
Skilled	75	60	70	70
Semi-skilled	45	40	30	50
Unskilled	60	30	80	20

The work is actually completed in 32 weeks.

Calculate the following Labour Variances:
(i) Labour Cost Variance;
(ii) Labour Rate variance;
(iv) Labour Efficiency Variance;
(v) Labour Revised Efficiency Variance;
(v) Labour Mix Variance. 8

(b) Three Articles X, Y and Z are produced in a factory. They pass through two cost centers A and B. From the data furnished, compile a statement for budgeted machine utilization in both the centers.

(i) Sales budget for the year:

Product	Annual Budgeted Sales (units)	Opening stock of finished products (units)	Closing stock
X	4800	600	Equivalent to 2 months sales
Y	2400	300	- Do --
Z	2400	800	- Do --

(ii) Machine hours per unit of product:

Product	Cost centers	
	A	B
X	30	70
Y	200	100
Z	30	20

(iii) Total number of machines:

Cost Centre:	A	338
	B	305
Total		643

(iv) Total working hours during the year: Estimated 2100 hours per machine 7

Answer:

7. (a) Computation of Standard and Actual Time

Category	Standard Time (ST)	Actual Time (AT)
Skilled	75x30 = 2,250	70 x 32 = 2,240
Semiskilled	45 x30= 1,350	30x32 = 960
Unskilled	60x30 = 1,800	80x32 = 2,560

Computation of Standard Cost and Actual Cost

Category of Worker	Standard			Actual			Revised Time RST
	Time ST	Rate SR (Rs.)	Cost SC(Rs.)	Time AT	Rate AR(Rs.)	Cost AC(Rs.)	
Skilled	2,250	60	1,35,000	2,240	70	1,56,800	2,400
Semiskilled	1,350	40	54,000	960	50	48,000	1,440
Unskilled	1800	30	54,000	2,560	20	51,200	1,920
Total	5,400	-	2,43,000	5,760	-	2,56,000	5,760

Computation of Revised Standard Time (RST)

Skilled worker : $\frac{2,250}{5,400} \times 5,760 = 2,400$ Hours

Semi-skilled worker : $\frac{1,350}{5,400} \times 5,760 = 1,440$ Hours

Unskilled worker : $\frac{1,800}{5,400} \times 5,760 = 1,920$ Hours

Computation of Variances

(i) LCV (Labour Cost Variance) = TSC - TAC = 2,43,000 - 2,56,000 = **Rs.** 13,000 (A)

(ii) LRV (Labour Rate Variance)= AT(SR-AR)
Skilled Worker : 2,240 (60 – 70) = **Rs.** 22,400 (A)
Semiskilled Worker :960 (40 – 50) = **Rs.** 9,600 (A)
Unskilled Worker : 2,560 (30 – 20) = Rs. 25,600 (F) = **Rs.** 6,400 (A)

(iii) LEV (Labour Efficiency Variance) = SR(ST-AT)
Skilled Worker : 60 (2,250 – 2,240) = **Rs.**600 (F)
Semiskilled Worker : 40(1,350 – 960) = **Rs.** 15,600 (F)
Unskilled Worker : 30(1,800 – 2,560) = Rs. 22,800 (A) = **Rs.** 6,600 (A)

(iv) LREV (Labour Revised Efficiency Variance) = SR (ST – RST)
Skilled Worker : 60(2,250 – 2,400) = **Rs.** 9,000 (A)
Semiskilled Worker : 40(1,350 – 1,440) = **Rs.** 3,600 (A)
Unskilled Worker : 30(1,800 – 1,920) = Rs. 3,600 (A) = Rs. 16,200 (A)

(v) LMV (Labour Mix Variance)= SR (RST – AT)
Skilled Worker : 60(2,400 – 2,240) = **Rs.** 9,600 (F)
Semiskilled Worker : 40(1,440 – 960) = **Rs.** 19,200 (F)
Unskilled Worker : 30(1,920 – 2,560) = Rs. 19,200 (A) = **Rs.** 9,600 (F)

(b) Calculation of Units of Production of Different Products

Particulars	Product X	Product Y	Product Z
Sales	4800	2400	2400
Add: Closing Stock	800	400	400
	5600	2800	2800
Less: Opening Stock	600	300	800
Production	5000	2500	2000

Machine Utilisation Budget

Cost Centres→	A				B			
Product →	X	Y	Z	TOTAL	X	Y	Z	TOTAL
Particulars ↓								
(i) Production (units)	5000	2500	2000		5000	2500	2000	
(ii) Hours per unit	30	200	30		70	100	20	
(iii) Total Machine Hours	1,50,000	5,00,000	60,000	7,10,000	3,50,000	2,50,000	40000	6,40,000
(iv) Utilisation of Number of Machines	71	238	29	338	167	119	19	305

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2017_PAPER-8

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

(a) "Cost Accounting and Management Accounting are inter-dependent." Do you agree, discuss.

(b) Differentiate between Operation Cost and Operating Cost.

(c) Enumerate the need for predetermined overhead rate.

(d) What is Responsibility Accounting? Also state the Principles of Responsibility Accounting.

Answer:

8. (a) **Cost Accounting:** In cost accounting, primary emphasis is on cost and it deals with its collection, analysis, relevance, interpretation and presentation for various problems of management.

Management Accounting: It utilizes the principles and practices of financial accounting and cost accounting in addition to other management techniques for efficient operations of a concern. It widely uses different techniques from various branches of knowledge like Statistics, Mathematics, Economics, Law and Psychology to assist the management in its task of maximizing profits or minimizing losses. The main thrust in management accounting is towards determining policy and formulating plans to achieve desired objectives of management.

From the above discussion it may be concluded that cost accounting and management accounting are inter-dependent, greatly related and inseparable.

(b) **Operation Cost:**

Operation cost is the cost of a specific operation involved in a production process or business activity. The cost unit in this method is the operation, instead of process. When the manufacturing method of a concern consists of a number of distinct operations, operating costing is suitable.

Operating Cost:

Operating cost is the cost incurred in conducting a business activity. It refers to the cost of concerns which do not manufacture any product but which provide services. Industries and establishments like power house, transport and travel agencies, hospitals, schools etc. which undertake services rather than the manufacture of products, ascertain operating costs. The cost units used are Kilo Watt Hour (KWH), Passenger Kilometre and Bed in the Hospital etc.

Operation costing method constitutes a distinct type of costing but it may also be classed as a variant of process cost since costs in this method are usually compiled for a specified period.

(c) Need for predetermined Overhead Rate:

Predetermined Overhead Rate is needed for the following reasons:

i) actual Rate can be determined only after the overheads have been incurred
ii) to avoid delay in computing cost
iii) to prepare Quotations in time and quickly
iv) actual Overhead Rate may fluctuate from period to period. But in case of predetermined rate, it is not so.
v) to ensure cost control.

OR

As per study material as under:

Advantages of Predetermined Overhead Rate:

i) Enables prompt preparation of cost estimates, quotations and fixation of selling prices.

ii) Cost data is available to management along with financial data.
iii) In case of Cost-plus contracts prompt billing is possible through pre-determined recovery rate/s.
iv) In concerns having budgetary control system, no extra clerical efforts are required in computing the pre-determined overhead rate.

(d) Responsibility Accounting:

It is a system of accounting that recognizes various responsibility centres throughout the organisation and reflects the plans and actions of each of these centres by assigning particular revenues and costs of the one having the pertinent responsibility.

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 and standard costing. It differs only in the sense that it lays emphasis on human beings and fixes responsibilities for individuals. It is based on the belief that control can be exercised by human beings, so responsibilities should be fixed for individuals.

Principles of Responsibility Accounting:

(i) A target is fixed for each department or responsibility centre.
(ii) Actual performance is compared with the target.
(iii) The variances from plan are analysed so as to fix the responsibility.
(iv) Corrective action is taken by higher management and is communicated.

INTERMEDIATE EXAMINATION

GROUP -II
(SYLLABUS 2016)

SUGGESTED ANSWERS TO QUESTIONS

JUNE- 2018

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 Romannumeral and the alphabet chosen for your answer): 1×10=10

(i) Batch costing is suitable for
- **(a) Oil Industry**
- **(b) Sugar Industry**
- **(c) Chemical Industry**
- **(d) Pharmaceutical Industry**

(ii) Idle time is
- **(a) Time spent by workers in office**
- **(b) Time spent by workers in factory**
- **(c) Time spent by workers off their work**
- **(d) Time spent by workers on their job**

(iii) Warehouse expense is an example of
- **(a) Production overhead**
- **(b) Administration overhead**
- **(c) Selling overhead**
- **(d) Distribution overhead**

(iv) Standard deals with the principles and methods of determining depreciation and amortization cost is
- **(a) CAS-8**
- **(b) CAS -11**
- **(c) CAS-16**
- **(d) CAS-20**

(v) In Reconciliation Statement expenses shown only in cost accounts are
(a) Added to financial profit
(b) Deducted from financial profit
(c) Ignored
(d) Deducted from costing profit

(vi) In a job cost system, costs are accumulated
(a) On a monthly basis
(b) By specific job
(c) By department or process
(d) By kind of material used

(vii) In a process 6,000 units are introduced during a period. 5% of input is normal loss. Closing work-in-process 60% complete is 800 units. 4,900 completed units are transferred to next process. Equivalent production for the period is
(a) 6,800 units
(b) 5,700 units
(c) 5,680 units
(d) 5,380 units

(viii) Which of the following best describes a fixed cost?
(a) It may change in total where such change is unrelated to changes in production.
(b) It may change in total where such change is related to changes in production.
(c) It is constant per unit of change in production.
(d) It may change in total where such change depends on production within the relevant range.

(ix) Z Ltd. is planning to sell 1,00,000 units of product A for Rs. 12.00 per unit. The fixed costs are Rs.2,80,000. In order to realize a profit of Rs. 2,00,000, what would the variable costs be?
(a) Rs. 4,80,000
(b) Rs. 7,20,000
(c) Rs. 9,00,000
(d) Rs. 9,20,000

(x) Sales budget is an example of
(a) Expenditure budget
(b) Functional budget
(c) Capital budget
(d) Master budget

(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)	Imputed costs	A	Cost control technique
(ii)	FSN analysis	B	Treated as part of factory expenses
(iii)	Captive power plant expenses	C	Costing profit and loss account
(iv)	Abnormal loss is transferred to	D	Process of classifying material
(v)	Variance analysis	E	Direct allocation
		F	Not involving cash outlay
		G	Management by exception
		H	Decision package

(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) Factory overhead cost applied to a job is usually based on a pre-determined rate.
(ii) CAS-19 deals with the principles and methods of determining the manufacturing cost of excisable goods.
(iii) Cost ledger control account makes the cost ledger self-balancing.
(iv) FIFO method is followed for evaluation of equivalent production when prices are fluctuating.
(v) Standard costs and budgeted costs are inter-related and inter-dependent.

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

(i) _____is the process of regulating the action so as to keep the element of costwithin the set parameters.
(ii) In absorption costing_____is added to inventory.
(iii) CAS _____ stands for cost of service cost Centre.
(iv) At _____ contribution available is equal to total fixed cost.
(v) The document which describes the budgeting organisation, budgeting procedure etc.isknown as _____.

Answer:

1. (a) (i) (d)
(ii) (c)
(iii) (d)
(iv) (c)
(v) (b)
(vi) (b)
(vii) (d)
(viii) (a)
(ix) (b)
(x) (b)

(b)

	Column I		Column II
(i)	Imputed costs	F	Not involving cash outlay
(ii)	FSN analysis	D	Process of classifying material
(iii)	Captive power plant expenses	B	Treated as part of factory expenses
(iv)	Abnormal loss is transferred to	C	Costing profit and loss account
(v)	Variance analysis	G	Management by exception

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

(d) (i) Cost Control
(ii) Fixed Cost
(iii) CAS - 13
(iv) Break even point
(v) Budget Manual

Section - B

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

15 × 5 = 75

2. (a) The existing Incentive system of SHRISTI LTD is as under:

Normal working week : 5 days of 8 hours each plus 3 late shifts of 3 hours each
Rate of Payment : Day work :Rs.160 per hour
Late shift:Rs. 225 per hour

Average output per operatorfor 49-hours week i.e. including
3 late shifts : 120 articles.

In order to increase output and eliminate overtime, it was decided to switch on to a system of payment by results. The following information is obtained:

Time-rate (as usual)	**:Rs. 160 per hour**
Basic time allowed for 15 articles	**: 5 hours**
Piece-work rate	**: Add 20% to basic piece-rate**
Premium Bonus	**: Add 50% to time.**

Required:
Prepare a Statement showing hours worked, weekly earnings, number of articles produced and labour cost per article for one operator under the following systems:
(i) Existing time-rate
(ii) Straight piece-work
(iii) Rowan system
(iv) Halsey premium system

Assume that 135 articles are produced in a 40-hour week under straight piece work, Rowan Premium System, the Halsey Premium System above and worker earns half the time saved under Halsey Premium System. 9

(b) The following figures are taken from the accounts of BALEN LTD a manufacturing concern for the month of October, 2017:

Indirect Materials : Production Departments : X Rs. 19,000; Y Rs. 24,000; Z Rs. 4,000;
Service Departments : Maintenance Rs. 30,000; Stores Rs. 8,000.
Indirect Wages : Production Departments : X Rs. 18,000; YRs. 22,000; Z Rs. 6,000;
Service Departments : Maintenance Rs. 20,000; Stores Rs.13,000.

Other Expenses: Power and Light: Rs. 1,20,000; Rent and Rates Rs. 56,000; Insurance of Assets Rs. 20,000; Meal Charges Rs. 60,000; Depreciation @ 6% p.a. on capital value of assets.

Departmental Data

Items	Production Departments			Service Department	
	X	Y	Z	Maintenance	Stores
Area (Sq. Ft.)	4,000	4,000	3,000	2,000	1,000
Capital Value of Assets (Rs.)	20,00,000	24,00,000	16,00,000	12,00,000	8,00,000
Kilowatt Hours	2,000	2,200	800	750	250
Number of Employees	180	240	60	80	40

Service rendered by Maintenance Department to Production Departments:
X 50%; Y 30%; Z 20%.
Service rendered by Stores Department to Production Departments:
X 40%; Y 40%; Z 20%.

From the above data, prepare a Departmental Distribution Summary showing apportion of costs ofService Departments to the Production Departments and the Total Overheads of the ProductionDepartments. 6

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_JUNE2018_PAPER-8

Answer:

2. (a)

Table Showing Labour Cost Per Article

Method of Payment	Hourswor ked	Weeklyearnings produced (Rs.)	Number ofarticles	Labour costper article (Rs.)
Existing time rate	49	8,425.00	120	70.21
Straight piece rate system	40	8,640.00	135	64.00
Rowan Premium System	40	9,007.41	135	66.72
Halsey Premium System	40	8,600.00	135	63.70

Working Notes:

(i) Existing Time Rate

Weekly wages	40 hours @ Rs.160 per hr.	= Rs. 6,400
	9 hours @ Rs.225 per hr.	= Rs. 2,025
		Rs. 8,425

(ii) Piece Rate System

Basic Time	5 hours for 15 articles	
	Cost of 15 articles at hourly rate of Rs.160/hr	= Rs. 800
	Add: 20%	= Rs. 160
		= Rs. 960

∴ Rate per article = Rs. 960 ÷ 15 = Rs. 64.
Earning for the week = 135 articles × Rs. 64 = Rs. 8,640.

(iii) Rowan Premium System

Basic Time 5 hours for 15 articles
50% to time
7.5 hours for 15 articles or 30 minutes per article
∴Time allowed for 135 articles = 67.50 hours
Actual time taken for 135 articles = 40 hours

Earnings = (HW × RH) +$(\frac{TA-HW}{TA} \times HW \times RH)$

= (40 hours × Rs.160) +$(\frac{67.50-40}{67.50} \times 40 \times$ Rs.160) = Rs. 9,007.41

(i) Halsey Premium System:

Earnings = (HW × RH) +$\{\frac{50}{100}$ (TA – HW) × RH}

= (40 × Rs.160) + $\{\frac{1}{2}$ (67.50 -40) × Rs.160} = Rs. 8,600

(b) Departmental Distribution Summary

Items	Basis of Apportionment	Total	Production Departments			Service Departments	
			X	Y	Z	Maintenance	Stores
			Rs.	Rs.	Rs.	Rs.	Rs.
Indirect Materials	Allocation	85,000	19,000	24,000	4,000	30,000	8,000
Indirect Wages	Allocation	79,000	18,000	22,000	6,000	20,000	13,000
Power &Light	Kilowatt Hours (200:220:80:75:25)	1,20,000	40,000	44,000	16,000	15,000	5,000
Depreciation (1 Month)	Value of Assets (5:6:4:3:2)	40,000	10,000	12,000	8,000	6,000	4,000
Insurance	Value of Assets	20,000	5,000	6,000	4,000	3,000	2,000
Rent & Rates	Area	56,000	16,000	16,000	12,000	8,000	4,000
Meal Charges	No. of Employees	60,000	18,000	24,000	6,000	8,000	4,000
		4,60,000	1,26,000	1,48,000	56,000	90,000	40,000

Maintenance Department		-	45,000	27,000	18,000	Nil	
Stores Department		-	16,000	16,000	8,000		Nil
Total Overheads		4,60,000	1,87,000	1,91,000	82,000		

3. (a) What are the Direct Expenses as defined in CAS-10 (Limited Revision 2017)? Also discuss the general principles of its measurement as per CAS-10. (any five only) 6

(b) The net profit of X Ltd., appeared at Rs. 41,800 as per financial records for the year ending 31st March, 2018. A scrutiny of the figures from both the sets of accounts revealed thefollowing facts:

		Rs.
Works overhead under-recovered in costs		**1,500**
Administrative overheads over-recovered in costs		**850**
Depreciation charged in financial accounts		**5,600**
Depreciation recovered in costs		**6,250**
Interest on investments not included in costs	**3,000**	
Loss due to obsolescence charged in financial accounts		**2,850**
Income tax reserve made in financial accounts	**20,150**	
Bank interest and transfer fee credited in financial books		**370**
Stores adjustment (credit) in financial books		**230**
Value of opening stock in : Cost accounts	**24,800**	
: Financial accounts		**26,300**
Value of closing stock in : Cost accounts	**25,000**	
: Financial accounts		**23,000**
Interest charged in cost accounts		**2,000**
Imputed rent charged in cost accounts		**1,000**
Goodwill written off		**5,000**
Loss on sale of furniture		**600**
Selling and distribution expenses not charged in cost accounts		**10,000**
Donations to Prime Minister's Relief Fund		**5,100**
Transfer to Debenture Redemption Fund		**9,000**
Transfer to Dividend Equalisation Fund		**20,500**

Required:
Prepare a statement showing the reconciliation statement and find out the profit as per costAccounts. 9

Answer:

3. (a) **Direct Expenses** : As per CAS - 10 (Limited Revision 2017), Direct Expenses are the "Expenses relating tomanufacture of a product or rendering a service, which can be identified or linked with the cost object other thandirect material cost and direct employee cost."

General Principles of Measurement: (Any five points)

(i) Identification of direct expense shall be based on traceability in an economically feasible manner.

(ii) Direct expenses incurred for bought out resources shall be determined at invoice price including all taxes and duties and any other expenditure directly attributable thereto net of trade discounts, taxes and duties refundable or to be credited.

(iii) Direct expenses paid/incurred in lump-sum or which are in the nature of onetime payment shall beamortized on the basis of estimated output or benefit to be derived from such expenses.

(iv) Finance cost incurred in connection with selfgenerated or procured resources shall not form part of thedirect expenses.

(v) Any subsidy/grant/incentive or any amount received or receivable with respect to any direct expensesshall be reduced for ascertainment of the cost of the cost object.
(vi) Penalties/damages paid to statutory authorities or other third parties shall not form part of the directexpenses.
(vii) Any change in the cost accounting principles applied for measurement of the direct expenses should bemade only if it is required by law or for compliance with the requirements of a CAS or a change wouldresult in a more appropriatepreparation or presentation of cost statement of the organization.
(viii) Credit/recoveries relating to direct expenses if material and quantifiable shall be deducted to arrive at thenet direct expenses.
(ix) Any abnormal portion of direct expenses which is material and quantifiable shall not form part of thedirect expenses.

(b)

Reconciliation Statement

Particulars	Rs.	Rs.
Profit as per Financial Accounts		41,800
Add:		
Works Overhead under-recovered in Cost Accounts	1,500	
Expenses and losses debited in Financial Accounts but excluded from Cost Accounts:		
Income Tax Reserve	20,150	
Loss on sale of Furniture	600	
Loss due to obsolescence	2,850	
Goodwill written off	5,000	
Selling and Distribution expenses not charged in Cost Accounts	10,000	
Donation to Prime Minister's Relief Fund	5,100	
Transfer to Debenture Redemption Fund	9,000	
Transfer to Dividend Equalisation Fund	20,500	
Under valuation of Opening Stock in Cost Accounts	1,500	
Over valuation of Closing Stock in Cost Accounts	2,000	78,200
		1,20,000
Less:		
Administrative Overheads over-recovered in Cost Accounts	850	
Depreciation over-charged in Cost Accounts	650	
Incomes and gains credited in Financial books but not shown in Cost Accounts:		
Interest on Investments	3,000	
Bank interest and transfer fees	370	
Stores adjustments	230	
Imputed rent charged in Cost Accounts	1,000	
Interest charged in Cost Accounts	2,000	8,100
Profit as per Cost Accounts		1,11,900

4. (a) The following data are available from the books and records of VEEMYES Ltd. for the month of November 2017.
Direct Labour cost : Rs. 20,000 (125 % of factory overheads)

Inventory accounts show the following figures:

	November 1 Rs.	November 30 Rs.
Raw materials	**10,000**	**20,000**
Work in progress	**8,000**	**4,000**
Finished goods	**10,000**	**5,000**
Selling expenses		**15,000**
Office expenses		**10,000**

Sales		**1,25,000**

The company maintains a profit of 25% on cost.
You are required to prepare a cost sheet for the month of November 2017 with all elements. 8

(b) CBA Ltd., manufactures certain grades of products known as M, B1 and B2. In course of manufacture of product M (main product), by-products- B1 and B2 emerge. The joint expenses of manufacture amount to Rs. 2,37,600.

All the three products are processed further after separation and sold as per details given below:

Product – M

(By Products)

		Product – B1	Product – B2
Sales (Rs.)	**2,00,000**	**1,20,000**	**80,000**
Cost incurred after separation (Rs.)	**20,000**	**15,000**	**10,000**
Profit as percentage on sales	**25**	**20**	**15**

Total fixed selling expenses are 10% of total cost of sales which are apportioned to the three products in the ratio of 20:40:40.

Required:

(i) Prepare a statement showing the apportionment of joint costs to the products (M, B1 and B2)

(ii) If the product B1 (by product) is not subject to further processing and is sold at the point of separation, for which there is a market at Rs.1,00,440 without incurring any selling expenses, would you advise its disposal at this stage? Show the workings. 7

Answer:

4. (a)

Statement of Cost and Profit

Particulars	Amount in Rs.
Opening Stock of Raw Materials	10,000
Purchase of Raw Materials	40,000
	50,000
Less: Closing Stock of Raw Materials	20,000
Cost of Materials consumed	30,000
Add: Direct Labour Cost	20,000
Prime Cost	50,000
Add: Factory Overheads	16,000
	66,000
Add: Opening Stock of Work-in –Progress	8,000
	74,000
Less: Closing Stock of Work-in-Progress	4,000
Factory Cost	70,000
Add: Office Expenses	10,000
Cost of Production	80,000
Add: Opening Stock of Finished Goods	10,000
	90,000
Less: Closing Stock of Finished Goods	5,000
Cost of Goods sold	85,000
Add: Selling Expenses	15,000
Total Cost	1,00,000
Add: Profit	25,000
Sales	1,25,000

Workings: Calculation of purchase of raw materials

Details	Amount in Rs.
Sales	1,25,000
Less: Profit	25,000
Total Cost	1,00,000
Less: Selling Expenses	15,000
Cost of Goods Sold	85,000
Add: Closing Stock of Finished Goods	5,000
	90,000
Less: Opening Stock of Finished Goods	10,000
Cost of Production	80,000
Less: Office Expenses	10,000
Factory Cost	70,000
Add: Closing Stock of Work-in-Progress	4,000
	74,000
Less: Opening Stock of Wok-in-Progress	8,000
	66,000
Less: Factory Overheads	16,000
Prime Cost	50,000
Less: Direct Labour Cost	20,000
Cost of Raw Materials consumed	30,000
Less: Opening Stock of Raw Materials	10,000
	20,000
Add: Closing Stock of Raw Materials	20,000
Purchase of Raw Materials	40,000

(b) (i) Statement of Apportionment of Joint Cost

Particulars	Total	Product	By-Products	
		M	B1	B2
	Rs.	Rs.	Rs.	Rs.
Sales	4,00,000	2,00,000	1,20,000	80,000
Less: Profit	86,000	50,000	24,000	12,000
Cost of Sales	3,14,000	1,50,000	96,000	68,000
Less: Selling & Distribution Expenses (10% of Rs. 3,14,000 in the Ratio 20:40:40)	31,400	6,280	12,560	12,560
Cost of Production	2,82,600	1,43,720	83,440	55,440
Less: After separation Cost	45,000	20,000	15,000	10,000
Joint Cost	2,37,600	1,23,720	68,440	45,440

(ii) By product B1 earns Rs. 24,000 as profit after separation

Profit before separation = Rs.1,00,440–Rs. 68,440 = Rs. 32,000

If By product B1 is sold before further processing, then the profit of the by product may be increased by Rs. (32,000 - 24,000) = Rs. 8,000.

Hence it is advisable to sell the product B1 at the point of separation.

5. (a) JANATA TRANSPORT LTD. a Transport Company is running 4 buses between two towns which are 50 kms. away. Seating capacity of each bus is 40 passengers. The following information is obtained from its books for November, 2017:

Particulars	Rs.
Wages of drivers, conductors and cleaners	**24,000**
Salaries of office and supervisory staff	**10,000**
Diesel, oil and other lubricants	**40,000**
Repairs and maintenance	**8,000**
Taxes, insurance etc.	**16,000**
Depreciation of buses	**26,000**

Interest and other charges	**20,000**

Actual passengers carried were 75% of the seating capacity. All the 4 buses ran on all the days of the month. Each bus made one to and fro round trip per day.
Prepare the Operating Cost Statement and determine the cost per passenger km. for each bus. 8

(b) A contractor, who prepares his accounts on 31st March each year, commenced a Contract No. 220 on 1st July, 2016. The following information is revealed from his costing records on 31st March, 2017:

Particulars	(Rs.)
Materials sent to site	2,51,000
Labour	5,65,600
Foreman's salary	81,300

A machine costing Rs.2,60,000 remained in use on site for 146 days. Its working life is estimated at 7 years and final scrap value at Rs. 15,000. A supervisor is paid Rs. 8,000 per monthand has devoted one half of his time on the contract. All other expenses amount to Rs. 1,36,500. Materials at site on 31st March, 2017 cost Rs. 35,400. The contract price is Rs. 20,00,000. On 31st March, 2017 two-third of the contract was completed, however, the architect gave certificate only for 50% of the contract price and Rs. 7,50,000 had so far been paid on account.

Prepare Contract Account and state how much profit or loss should be included on 31st March, 2017 in financial accounts. 7

Answer:

5. (a) Operating Cost Statement

Particulars		Amount in Rs.
(A)	Fixed Costs or Fixed Charges:	
	Wages of Drivers, Conductors and Cleaners	24,000
	Salary of Office and Supervisory Staff	10,000
	Taxes, Insurance etc.	16,000
	Interest and other charges	20,000
	Depreciation of buses	26,000
	Total Fixed Costs	96,000
(B)	Variable Costs or Running Charges:	
	Diesel, Oil and other Lubricants	40,000
	Repairs and Maintenance	8,000
	Total Variable Costs or Running Charges	48,000
(C)	Total Operating Charges or Cost (A + B)	1,44,000
(D)	Effective Passenger kms.	3,60,000
(E)	Cost per Passenger km. (C/D)	0.40

Note: Depreciation can also be shown as Variable Cost or Running Charges as per study module.

Working Note:

Calculation of Effective Passenger kms.:

kms. in one round trip = 50 x 2 = 100 kms

Passenger kms.= Buses x Trip kms. x Trips x Days x Passengers x Capacity

= 4 x 100 x 1 x30 x 40 x75%

= 3,60,000 Passenger kms.

(b)

Working Notes:

(i) Calculation of Depreciation on Machine:

Cost of Machine	Rs. 2,60,000
Less: Scrap Value	Rs. 15,000
Cost of Machine to be written off	Rs. 2,45,000

Depreciation of 1 Year = Rs. 2,45,000/7 = Rs. 35,000
Depreciation for 146 days = Rs. 35,000 (146/365) = Rs.14,000

(ii) Calculation of Cost of Work Uncertified:
Cost of 2/3rd completed work = Rs. 10,49,000
Total Cost of completed Contract = Rs. 10,49,000× 3/2 = Rs. 15,73,500
Part of uncertified work = 2/3 – ½ = 1/6
Therefore, Cost of uncertified work = Rs. 15,73,500× 1/6 = Rs. 2,62,250

(iii) Profit Transferred to Profit and Loss Account:

Notional Profit × 2/3 × $\frac{7,50,000}{10,00,000}$ = Rs. 1,06,625

Contract Account

Dr. (for the year ended 31st March, 2017) Cr.

Particulars	Rs.		Particulars	Rs.
To Materials	2,51,000		By Materials at site	35,400
To Labour	5,65,600		By Balance c/d (Total Cost)	10,49,000
To Foreman's Salary	81,300			
To Supervisor's Salary (Rs. 8,000 × $\frac{1}{2}$ × 9)	36,000			
To Depreciation on Machine	14,000			
To other Expenses	1,36,500			
	10,84,400			10,84,400
To Balance b/d	10,49,000		By Work-in-Progress:	
To Notional Profit c/d	2,13,250		Certified Rs. 10,00,000	
			Uncertified Rs. 2,62,250	12,62,250
	12,62,250			12,62,250
To profit & Loss Account	1,06,625		By Notional Profit b/d	2,13,250
To Work-in-Progress A/c (Reserve)	1,06,625			
	2,13,250			2,13,250

6. (a) ANKIT LTD. a manufacturing Company which produces three products furnishes the following information for the year 2016-17:

Particulars	Products		
	A	B	C
Selling Price (per unit)	Rs. 200	Rs. 150	Rs. 100
Profit Volume Ratio	10%	20%	40%
Raw Material content as a % of Variable Cost	50%	50%	50%
Maximum Sales Potential (units)	40,000	25,000	10,000

Fixed costs are estimated at Rs. 12 lakhs. The firm uses same raw material in all the three products. Raw material is in 'Short Supply'. The firm has a quota for the supply of raw materials of the value of Rs. 36 lakhs for the year 2016-17 for the production of three products to meet sales demand.

Required:
Determine the optimal product mix and ascertain the maximum profit therefrom. 8

(b) The following figures are obtained from the records of P. Ltd.:

	2015-16 (Rs.)	2016-17 (Rs.)

Sales	**80,000**	**1,00,000**
Net Profit	**10,000**	**16,000**

Required:
Calculate the following:
(i) Profit Volume Ratio
(ii) Break Even Point
(iii) Profit or loss at sales of Rs. 40,000
(iv) Sales required to earn a profit of Rs. 22,000
(v) Margin of Safety if sales is Rs. 55,000 **7**

Answer:

6. (a) Marginal Cost Statement

Particulars	Product		
	A (Rs.)	B (Rs.)	C (Rs.)
Selling Price (SP)	200	150	100
Less: Variable Cost (VC) = SP -(SP × P/V Ratio)	180	120	60
Contribution per Unit (SP –VC)	20	30	40
Contribution per Key-Factor {C/KF(50% of VC)}	0.22	0.50	1.33
Ranking	III	II	I
Units Produced	20,000 (18,00,000/90)	25,000 (Maximum)	10,000 (Maximum)
Raw Material used (Rs.)	18,00,000 (Rs.36,00,000 – Rs.18,00,000)	15,00,000 (25,000 × Rs.60)	3,00,000 (10,000 × Rs.30)

Optimal Product Mix:
Product A 20,000 units (From remaining raw material)
Product B 25,000 units (Maximum)
Product C 10,000 units (Maximum)

Calculation of Profit

Particulars		(Rs.)
Product A	20,000 units x Rs. 20 (C per unit)	4,00,000
Product B	25,000 units x Rs. 30	7,50,000
Product C	10,000 units xRs. 40	4,00,000
Total Contribution		15,50,000
Less : Fixed Cost		12,00,000
Maximum Profit		3,50,000

(b) (i) Profit Volume Ratio:
P/V Ratio = (Change in Profit / Change in Sales) x 100
= (Rs. 6,000 / 20,000)* x 100 = 30%

	Sales (Rs.)	Profit (Rs.)
* 2016-17	1,00,000	16,000
2015 -16	80,000	10,000
	20,000	6,000

(i) Break Even Point (BEP):
BEP = Sales× P/V Ratio (Contribution) = Fixed Cost (FC) + Profit or,
Rs. 80,000 × 30% = Fixed Cost + Rs. 10,000 or,
Rs. 24,000 = Fixed Cost + Rs. 10,000 Or Fixed Cost =Rs. 14,000

Or

Rs. 1,00,000× 30% =FC + Rs. 16,000 or,
Rs. 30,000 =FC + Rs.16,000 Or FC = Rs.14,000
Now, BEP = Sales × P/V Ratio = FC or, Sales× 30% = Rs. 14,000 or BEP = Rs. 46,667

Or, BEP Sales = Fixed Cost/ (P/V Ratio) = Rs.14,000/0.30 =Rs.46,667

(ii) Profit or Loss at Sales of Rs. 40,000:

We know that : Sales × P/V Ratio = Fixed Cost + Profit

∴ Rs. 40,000 × 30% = Rs. 14,000 + Profit or,

Rs. 12,000 = Rs. 14,000 + Profit or Profit = (-) Rs. 2,000

When Sales are Rs. 40,000, loss is Rs. 2,000.

(iii) Sales required to earn a Profit of Rs. 22,000:

We know that: Sales × P/V Ratio = Fixed Cost + Profit or,

Sales × 30% =Rs.14,000 + Rs. 22,000 or Sales = Rs. 1,20,000

(iv) Margin of Safety if Sales is Rs.55,000:

Margin of Safety (MS) = Sales at Activity Level – Break Even Sales

= Rs. 55,000 – Rs. 46,667 orRs. = Rs.8,333

7. (a) The standard cost card of A & Co. shows the following costs:

Material cost - 2 kg @ Rs. 2.50 each	**Rs. 5.00 per unit**
Wages - 2 hours @ 50 paise each	**Re.1.00 per unit**

The actual data from business operations are as follows:

Production	**8,000 units**

Actual total cost of production:

Material cost - 16,500 kg @ Rs. 2.40 each	**Rs. 39,600**
Wages -18,000 hours @ 40 paise each	**Rs. 7,200**

Calculate the following variances:

(i) Material Cost Variance (MCV);
(ii) Material Price Variance (MPV);
(iii) Material Usage Variance (MUV);
(iv) Labour Cost Variance (LCV);
(v) Labour Rate Variance (LRV);
(vi) Labour Efficiency Variance (LEV). **8**

(b) Summarised below are the revenue and expenditure figures of AB Ltd. for the month of March to August,2017:

Month	Sales (Rs.)	Purchases (Rs.)	Wages (Rs.)	Expenses (Rs.)
March	6,50,000	4,00,000	1,20,000	50,000
April	7,00,000	4,80,000	1,50,000	50,000
May	7,50,000	4,50,000	1,50,000	60,000
June	8,00,000	4,80,000	1,80,000	60,000
July	8,20,000	4,00,000	1,80,000	80,000
August	8,90,000	5,00,000	2,00,000	80,000

The following further information is available:

(i) 10% Purchases and sales are on cash basis.
(ii) Advance payment of income tax in August, 2017 Rs. 50,000.
(iii) Plant purchased and price to be paid in June, 2017 Rs. 1,00,000.
(iv) Time lag-

Credit sales	2 months
Credit purchases	1 month
Wages	½month
Expenses	½month

Required:

Prepare a Cash Budget for 3 months starting on 1st June, 2017 when cash balance is Rs. 2,00,000. **7**

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_JUNE2018_PAPER-8

Answer:

7. (a)

Working Notes:

Standard Quantity for actual output = 8,000 Units × 2 kg. = 16,000 kg.
Standard Hours for actual output = 8,000 Units × 2 hours = 16,000 hours
Standard Cost of Material = SQ × SP = 16,000 kg.× Rs.2.50 = Rs. 40,000
Actual Cost of Material AQ × AP = 16,500 kg. × Rs.2.40 = Rs. 39,600
Standard Cost of Wages = SH × SR = 16,000 hours × Re.0.50 = Rs. 8,000
Actual Cost of Wages = AH × AR = 18,000 hours × Re. 0.40 = Rs. 7,200

Material Variances:

(i) MCV = TSC – TAC = Rs. 40,000 – Rs.39,600 = Rs. 400(F)
(ii) MPV = AQ(SP – AP) =16,500 kg. (Rs.2.50 – Rs.2.40) = Rs. 1,650 (F)
(iii) MUV = SP(SQ – AQ) = Rs. 2.50(16,000kg. – 16,500 kg.) = Rs. 1,250(A)

Labour Variances:

(iv) LCV = SC – AC = Rs. 8,000 – Rs.7,200 = Rs. 800(F)
(v) LRV = AH (SR –AR)= 18,000hours (Re.0.50 – Re. 0.40) = Rs. 1,800(F)
(vi) LEV = SR(SH –AH) = Re.0.50 (16,000 hours – 18,000 hours)= Rs. 1,000 (A)

(b)

Working Notes:

(i) Collection from Debtors:

	June (Rs.)	July (Rs.)	August (Rs.)
Sales for April, May and June respectively	7,00,000	7,50,000	8,00,000
Less: 10% for Cash Sales	70,000	75,000	80,000
Credit Sales (Collection from Debtors)	6,30,000	6,75,000	7,20,000

(ii) Payment to Creditors:

	June (Rs.)	July (Rs.)	August (Rs.)
Purchases for the preceding month	4,50,000	4,80,000	4,00,000
Less: 10% for Cash Purchases	45,000	48,000	40,000
Credit Purchases (Payment to Creditors)	4,05,000	4,32,000	3,60,000

Cash Budget
(for June to August, 2017)

Particulars	June (Rs.)	July (Rs.)	August (Rs.)
Cash Balance	2,00,000	1,32,000	1,67,000
Receipts:			
Cash Sales	80,000	82,000	89,000
Collection from Debtors	6,30,000	6,75,000	7,20,000
Total Receipts (A)	9,10,000	8,89,000	9,76,000
Payments:			
Cash Purchases	48,000	40,000	50,000
Payment to Creditors	4,05,000	4,32,000	3,60,000
Wages	1,65,000	1,80,000	1,90,000
Expenses	60,000	70,000	80,000
Plant	1,00,000		
Advance Income Tax			50,000
Total Payments (B)	7,78,000	7,22,000	7,30,000
Cash Balance (A – B)	1,32,000	1,67,000	2,46,000

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

(a) Differentiate between cost control and cost reduction.

(b) Cost accounting has emerged as a specialized discipline due to various factors. List out these factors. (*Any five*)

(c) What is Economic Order Quantity (EOQ)? State the assumptions underlying EOQ.

(d) What is Principal Budget Factor? Explain your answer with suitable example.

Answer:

8. (a) Cost **Control** vs.**Cost Reduction** : Both cost control and cost reduction are efficient tools for management buttheir concepts and procedure are widely different. The main differences are as follows:

	Cost Control	Cost Reduction
(i)	Cost control representseffortsmadetowards achieving target or goal.	Costreduction represents the achievement in reduction of cost.
(ii)	The Process of cost control is to setup a target, ascertain the actual performance and compare it with the target, investigate the variances, and take remedial measures.	Cost reduction is not concerned with maintenance of performance according to standards.
(iii)	Cost control assumes the existence of standards or norms which are not challenged.	Cost reduction assumes the existence of concealed potential savings in standards or norms which are therefore subjected to a constant challenge with a view to improvement by bringing out savings.
(iv)	Cost control is a preventive function. Costs are optimized before they are incurred.	Cost reduction is a corrective function. It operates even when an efficient cost control system exists. There is room for reduction in the achieved costs under controlled conditions.
(v)	Cost control lacks dynamic approach.	Cost reduction is a continuous process of analysis by various methods of all the factors affecting costs, efforts and functions in an organization. The main stress is upon the why of a thing and the aim is to have continual economy in costs.

(b) The main factors attributable for emerging cost accounting as a specialized discipline are as under:(Any Five Factors)

(i) Limitations placed on financial accounting.
(ii) Improved cost consciousness.
(iii) Rapid industrial development after industrial revolution and World wars.
(iv) Growing competition among the manufacturers.
(v) To control galloping price rise, the cost of computing the precise cost of product / service.
(vi) To control cost, several legislations passed throughout the World and in India too, such as EssentialCommodities Act, Industrial Development and Regulation Act (IDRA), etc.

(c) Economic Order Quantity (EOQ): EOQ is the size of the order for which both ordering and carrying costsare minimum.

Assumptions underlying EOQ:

(i) Ordering cost per order and carrying cost per unit per annum are known and they are fixed.
(ii) Anticipated usage of material in units in known.
(iii) Cost per unit of the material is constant and is known as well.
(iv) The quantity of material ordered is received immediately i.e. lead time is zero.

(d) Principal Budget Factor:

Budgets cover all the functional areas of the organisation. For the effectiveimplementation of the budgetarysystem, all the functional areas are to be considered which are interlinked. Because of these interlinks, certainfactors have the ability to affect all other budgets. Such factor is known as principal budget factor.

Principal budget factor is the factor the extent of influence of which must first be assessed in order to ensurethat the functional budgets are reasonably capable of fulfillment. A principal budget factor may be lack ofdemand, scarcity of raw material, non-availability of skilled labour, inadequate working capital etc. Forexample, an organisation has the capacity to produce 2,500 units per annum. But the production department isable to produce only 1,800 units due to non-availability of raw materials. In this case, non-availability of rawmaterials is the principal budget factor (limiting factor). If the sales manager estimates that he can sell only1,500 units due to lack of demand, then lack of demand is the principal budget factor. This concept is also known as key factor, or governing factor. This factor highlights the constraints withinwhich the organization functions.

Suggested Answer_Syl16_Dec2018_Paper 8

INTERMEDIATE EXAMINATION

GROUP I

(SYLLABUS 2016)

SUGGESTED ANSWERS TO QUESTIONS

DECEMBER 2018

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 answers.

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) Joint Cost is suitable for

- **(a) Oil Industry**
- **(b) Fertilizer Industry**
- **(c) Ornament Industry**
- **(d) Infrastructure Industry**

(ii) Cost of idle time arising due to non-availability of raw materials is

- **(a) recovered by inflating the raw materials cost.**
- **(b) recovered by inflating the wage rate.**
- **(c) charged to factory overheads.**
- **(d) charged to costing profit and loss account.**

(iii) Charging to a cost center those overheads that result solely for the existence of that cost center is known as

- **(a) Allotment**

(b) Allocation

(c) Absorption

(d) Apportionment

(iv) Standard deals with the cost of service cost center is

(a) CAS-9

(b) CAS-13

(c) CAS-16

(d) CAS-22

(v) In Reconciliation Statement income shown only in financial accounts is

(a) added to financial profit.

(b) deducted from financial profit.

(c) ignored.

(d) deducted from costing profit.

(vi) The most suitable cost system where the products differ in type of material and work performed is

(a) Process Costing

(b) Batch Costing

(c) Job Costing

(d) Operating Costing

(vii) In a process 10000 units are introduced during a period. 10% of input is normal loss. Closing work-in-process 70% complete is 1500 units. 7500 completed units are transferred to next process. Equivalent production for the period is

(a) 9550 units

(b) 9000 units

(c) 8550 units

(d) 8500 units

(viii) The sales and profit of a firm for the year 2016 are Rs.1,50,000 and Rs.20,000 and for the year 2017 are Rs.1,70,000 and Rs.25,000 respectively. The P/V Ratio of the firm is

(a) 15%

(b) 20%

(c) 25%

(d) 30%

(ix) Standard quantity of material for one unit output is 10 kg @ Rs.8 per kg. Actual output during a given period is 600 units. The standard quantity of material for actual output is

(a) 1200 kg

(b) 6000 kg

(c) 4800 kg

(d) 48000 kg

(x) Which of the following is a long-term Budget?

(a) Master Budget

(b) Production Budget

(c) Flexible Budget

(d) Capital Budget

(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): 1×5=5

	Column I		Column II
(i)	Cash discount allowed	(A)	Joint Cost
(ii)	Escalation Clause	(B)	Imputed Cost
(iii)	CAS-19	(C)	Direct Expenses
(iv)	Notional Cost	(D)	Not shown is cost sheet but debited to profit and loss account
(v)	Zero base budgeting	(E)	Sunk Cost
		(F)	Contract Costing
		(G)	Decision Package
		(H)	Variable 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 Book): 1×5=5

(i) Multiple costing is suitable for banking industry.

(ii) Slow moving materials have a high turnover ratio.

(iii) Cost ledger control account makes the cost ledger self-balancing.

(iv) There is inverse relationship between batch size and carrying costs.

(v) Marginal costing follows the identifiability wise classification of costs.

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

(i) _____ is discount allowed to the bulk purchaser.

(ii) CAS _____ stands for cost of utilities.

(iii) Under integrated accounting system, the accounting entry for payment of wages is to debit _____ and to credit cash account.

(iv) If the actual loss in a process is less than the normal loss, the difference is known as _____

(v) The principal budget factor for consumer goods manufacturer is normally _____.

Answer: 1 (a)

(i) (a)

(ii) (d)

(iii) (b)

(iv) (b)

(v) (b)

(vi) (c)

(vii) (c)

(viii) (c)

(ix) (b)

(x) (d)

Answer: 1 (b)

	Column I		Column II
(i)	Cash discount allowed	(D)	Not shown in cost sheet but debited to profit and loss account
(ii)	Escalation Clause	(F)	Contract Costing
(iii)	CAS-19	(A)	Joint Cost
(iv)	Notional Cost	(B)	Imputed Cost
(v)	Zero base budgeting	(G)	Decision Package

Answer: 1 (c)

(i) False

(ii) False

(iii) True

(iv) False

(v) False

Answer: 1 (d)

(i) Quantity Discount/ Trade Discount/ Cash Discount

(ii) CAS – 8

(iii) Wages Control Account

(iv) Abnormal gain/Abnormal Profit

(v) Sales Demand/Market Demand / Lack of Demand

Section - B

Answer any five questions from question numbers 2 to 8.

Each question carries 15 marks. 15×5=75

2. (a) ZEDYAAH TUBES LTD. manufactures a special product, which requires ZEDY. The following particulars were collected for the year 2017-18:

(i)	**Monthly demand of Zedy**	**:**	**7500 units**
(ii)	**Cost of placing an order**	**:**	**Rs.500**
(iii)	**Re-order period**	**:**	**5 to 8 weeks**
(iv)	**Cost per unit**	**:**	**Rs.60**
(v)	**Carrying cost % p.a.**	**:**	**10%**
(vi)	**Normal usage**	**:**	**500 units per week**

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(vii)	**Minimum usage**	**:**	**250 units per week**
(viii)	**Maximum usage**	**:**	**750 units per week**

Required:

Calculate the following:

(i) Re-order quantity
(ii) Re-order level
(iii) Minimum stock level
(iv) Maximum stock level
(v) Average stock level **7**

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

	`
Production Departments:	
A	**25,000**
B	**31,000**
C	**28,000**
Service Departments:	
S	**8,000**
T	**13,900**

Required:
Using the following bases of apportionment, distribute the cost of service departments under Simultaneous Equation Method:

	A	**B**	**C**	**S**	**T**
Department S	**30%**	**20%**	**40%**	**-**	**10%**
Department T	**40%**	**15%,**	**25%**	**20%**	**-**

8

Answer: 2 (a)

(i)	Re-order Quantity	=	$\sqrt{\frac{2AO}{C}} = \sqrt{\frac{2 \times 7,500 \times 12 \times 500}{60 \times 10\%}}$ = 3,873 units.
(ii)	Re-order Level	= =	Maximum Re-order Period x Maximum Usage 8 weeks × 750 unite per week = 6,000 units
(iii)	Minimum Stock Level	= =	Re-order Level - {Normal Usage × Normal Re-order Period} 6,000 - (500 × 6.5) = 2,750 units
(iv)	Maximum Stock Level	= =	Re-order Level + Re-order Quantity - (Minimum Usage × Minimum Re-order Period) 6,000 + 3,873 - (250 × 5) = 8,623 units.
(v)	Average Stock Level	= =	$\frac{1}{2}$ (Minimum Stock Level + Maximum Stock Level) $\frac{1}{2}$ (2,750 + 8,623) = 5,687 units. **OR** Minimum Level + $\frac{1}{2}$ Re-order Quantity = 2,750 +1,937 = 4,687 units

Answer: 2 (b)

Let x be the expense of Department S

and y be the expense of Department T

Then x = **Rs.** 8,000 + $\frac{1}{5}$ th of y (20% of y)

Y = **Rs.**3,900 + $\frac{1}{10}$ th of x

Putting the value of x, we get:

y = **Rs.**13,900 + $\frac{1}{10}$ of (8,000 + $\frac{1}{5}$ of y)

Or, y = **Rs.**13,900 + **Rs.**800 + $\frac{1}{50}$ y

Or, y = Rs.14,700 + $\frac{1}{50}$ y , or 50 y = 7,35,000 + y

Or, 50y - y = **Rs.** 7,35,000 or, y =Rs. $\frac{7,35,000}{49}$ = **Rs.**15,000

Putting the value of y we get

x = Rs 8,000 + $\frac{1}{5}$ th of y, or, x = Rs. 8,000 + $\frac{1}{5}$ of **Rs.**15,000

or, x = Rs.8,000 + **Rs.**3,000, or x = Rs.11,000

Total expenses of Dept. S = Rs.11,000

Total expenses of Dept. T = **Rs.**15,000

Overhead Distribution Summary

Particulars	**A**	**B**	**C**	**S**	**T**
	Rs.	Rs.	Rs.	Rs.	Rs.
Total as per					
Primary Distribution	25,000	31,000	28,000	8,000	13,900
Distribution of Expenses of Dept. S in the ratio 3:2:4:1	3,300	2,200	4,400	-11,000	1,100
Distribution of Expenses of Dept. T in the ratio 8:3:5:4	6,000	2,250	3,750	3,000	-15,000
	34,300	35,450	36,150	-	-

3. (a) What are the various types of materials included in the Material Cost as dealt with by CAS-6 relating to Cost Accounting Standard on Material Cost?

State the objective and scope of the Standard. **6**

Suggested Answer_Syl16_Dec2018_Paper 8

(b) The following information is available from the financial books of PQR Ltd. having a normal production capacity of 60000 units for the year ended 31st March, 2018:

(i) Sales Rs.10,00,000 (50000 units)
(ii) There was no opening and closing stock of finished units.
(iii) Direct material and direct wages costs were Rs.5,00,000 and Rs.2,50,000 respectively.
(iv) Actual factory expenses were Rs.1,50,000 of which 60% are fixed.
(v) Actual administrative expenses were `Rs.45,000 which are completely fixed.
(vi) Actual selling and distribution expenses were Rs.30,000 of which 40% are fixed.
(vii) Interest and dividends received Rs.15,000

You are required to

(A) find out profit as per financial books for the year ended 31st March, 2018.
(B) prepare the cost sheet and ascertain the profit as per cost accounts for the year ended 31st March, 2018 assuming that the indirect expenses are absorbed on the basis of normal production capacity.
(C) prepare a statement reconciling profits shown by financial and cost books. 9

Answer: 3 (a)

CAS-6: Cost Accounting Standard on Material Cost [Limited Revision 2017]

This standard deals with principles and methods of determining the Material Cost. Material for the purpose of this standard includes Raw Materials, Process Materials, Additives, manufactured / bought out Components, Sub-assemblies, Accessories, Semi-finished Goods, Consumable Stores, Spares and other indirect Materials.

This standard deals with the principles and methods of classification, measurement and assignment of Material Cost, for determination of the Cost of Product or Service, and the presentation and disclosure in Cost Statements.

Objective

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the Material Cost with reasonable accuracy.

Scope

This standard should be applied to Cost Statements which require classification, measurement, assignment, presentation and disclosure of Material Costs including those requiring attestation.

Answer: 3 (b)

(a) Profit and Loss Account for the year ended 31st March, 2018

Particulars	Rs.	Particulars	Rs.
To Direct Materials	5,00,000	By Sales (50,000 units)	10,00,000
To Direct Wages	2,50,000	By Interest and Dividends	15,000
To Factory Expenses	1,50,000		
To Administration Expenses	45,000		
To Selling & Distribution Expenses	30,000		
To Profit	40,000		
	10,15,000		10,15,000

(b) Cost Sheet for the year ended 31st March, 2018

Suggested Answer_Syl16_Dec2018_Paper 8

	Rs.	Rs.
Direct Material		5,00,000
Direct Wages		2,50,000
Prime Cost		7,50,000
Factory Expenses:		
Variable	60,000	
Fixed (Rs.90,000 × 5/6)	75,000	1,35,000
Works Cost		8,85,000
Administration Expenses (Rs.45,000 × 5/6)		37,500
Cost of Production		9,22,500
Selling & Distribution Expenses:		
Variable	18,000	
Fixed (Rs.12,000 × 5/6)	10,000	28,000
Cost of Sales		9,50,500
Profit		49,500
Sales		10,00,000

(c) Reconciliation Statement

	Rs.	Rs.
Profit as per Cost Accounts		49,500
Add : Interest and Dividends received only credited in Financial Accounts		15,000
		64,500
Less :		
Factory expenses under-charged in Cost Accounts (Rs.1,50,000 – Rs.1,35,000)	15,000	
Administrative expenses under-charged in Cost Accounts (Rs.45,000 – Rs.37,500)	7,500	
Selling and Distribution Expenses under-charged in Cost Accounts (Rs. 30,000 – Rs. 28,000)	2,000	24,500
Profit as per Financial Accounts		40,000

4. (a) Z Ltd., manufactured and sold 200 typewriters in the year 2017. Its summarised Trading and Profit & Loss Account for the year 2017 is as follows:

Total Output (in units) 200

Particulars	Rs.	Particulars	Rs.
To Cost of Material consumed	**1,20,000**	**By Sales**	**6,00,000**
To Direct Wages	**1,80,000**		
To Manufacturing Charges	**75,000**		
To Gross Profit c/d	**2,25,000**		
	6,00,000		**6,00,000**
To Management Expenses	**90,000**	**By Gross Profit b/d**	**2,25,000**
To General Expenses	**30,000**		

Suggested Answer_Syl16_Dec2018_Paper 8

To Rent, Rates & Taxes	**15,000**		
To Selling Expenses	**45,000**		
To Net Profit	**45,000**		
	2,25,000		**2,25,000**

For the year 2018, it is estimated that

(i) The output and sales will be 300 typewriters.

(ii) Price of material will rise by 25% compared to previous year level.

(iii) Wages per unit will rise by 10%.

(iv) Manufacturing charges will increase in proportion to the combined cost of material and wages

(v) Selling expenses per unit will remain unchanged.

Other expenses will remain unaffected by the rise in output.

Required:

Prepare a Cost Sheet showing the cost at which typewriters will be manufactured in 2018 and give price at which it should by marketed so as to show profit of 10% on selling price. 8

(b) The following details are extracted from the costing records of EVINIE LTD., an oil mill for the year ended 31st March, 2018. Purchased 2000 tons of copra for Rs.1,00,000 and other expenses were as under:

	Crushing(Rs.)	Refining (Rs.)	Finishing (Rs.)
Cost of Labour	**10,000**	**6,000**	**4,000**
Sundry Material	**4,000**	**3,000**	**2,000**
Electric Power	**3,000**	**2,000**	**1,600**
Steam	**2,000**	**2,000**	**1,500**
Repair of Machine	**2,000**	**1,000**	**500**
Cost of Casks	**—**	**—**	**7,500**

Factory Expenses were Rs.10,000 to be apportioned on the basis of wages. 1700 tons of crude oil was produced; 1540 tons of oil was refined and finally 1500 tons of oil was finished for delivery. Realised Rs.2,000 from sale of sacks; Rs.5,000 by sale of 250 tons of copra residue and Rs.5,100 by sale of 120 tons of by-products in refining process.

Prepare Process Accounts for the year ending on 31st March, 2018. 7

Answer: 4 (a)

Cost Sheet of Z Ltd. For the year 2017

Particulars	Total Cost Rs.	Cost per unit Rs.
Direct Material	1,20,000	600
Direct Labour	1,80,000	900
Prime Cost	3,00,000	1,500
Add : Factory Overhead (Manufacturing exp.)	75,000	375
Factory Cost	3,75,000	1,875
Add : **Office Overhead** :		
Management Expenses 90,000 General Expenses 30,000 Rent, Rates & Taxes 15,000	1,35,000	675

Suggested Answer_Syl16_Dec2018_Paper 8

Cost of Production	5,10,000	2,550
Add: Selling & Distribution Expenses	45,000	225
Total Cost	5,55,000	2,775
Profit	45,000	225
Selling Price	6,00,000	3,000

Estimate for the year 2018 :	**Rs.**
1. Material Cost per Unit: Add : Expected increase in Price of Material in 2018 (It is 25% compared to year 2017)	600 150
Expected price of material per unit	750
2. Wages per unit	900
Add : Expected increase @ 10%	90
Expected Wages per Unit	990
3. Manufacturing charges are **Rs.**375 per Unit and total of Material and Labour cost is Rs.1,500 per Unit so percentage of manufacturing expenses to combined Cost of Material and Wages is as follows : $= \frac{\text{Manufacturing Expenses}}{\text{Material Cost} + \text{Labour Cost}} \times 100$ $= \frac{375}{1,500} \times 100 = 25\%$ Manufacturing expenses are 25% of combined Cost of Material and Wages: 25% of **Rs.**1,740	435

To ascertain the Selling Price to be quoted in the year 2018 the estimated cost sheet for the year 2018 will be prepared as follows:

Estimated Cost Sheet
for the year 2018

Production = 300 Units

Particulars	**Total Cost Rs.**	**Cost per unit Rs.**
Direct Material	2,25,000	750.00
Direct Labour	2,97,000	990.00
Prime Cost	5,22,000	1,740.00
Factory Overhead (25% of Cost of Material & Wages)	1,30,500	435.00
Factory Cost	6,52,000	2,175.00
Office Overhead	1,35,000	450.00
Cost of Production	7,87,500	2,625.00
Selling & Distribution Overhead (300 × Rs.225)	67,500	225.00
Total Cost	8,55,000	2,850.00
Profit (10% of Selling Price or 1/9 of Total Cost)	95,000	316.67
Selling Price	9,50,000	3,166.67

Suggested Answer_Syl16_Dec2018_Paper 8

ALETRNATIVE

An alternative answer with volume multiplier can simplify the solution as follows

PARTICULARS	Amount in Rs.	Cost Per Unit Rs.
Direct materials (1,20,000*1.5*1.25)	2,25,000	750
Direct Labour (1,80,000*1.5*1.1)	2,97,000	990
Prime Cost	5,22,000	1,740
Manufacturing Charges (75,000/3,00,000)*5,22,000	1,30,500	435
Factory Cost	6,52,500	2,175
Office Overheads:		
Management Expenses 90,000		
General Expenses 30,000		
Rent , Rates & Taxes 15,000	1,35,000	450
Cost of Production	7,87,500	2,625
Selling Expenses (45,000*1.5)	67,500	225
Total Cost	8,55,000	2,850
Profit (1/9 of 8,55,000)	95,000	317
Sales	9,50,000	3,167
Selling price per typewriter (9,50,000/300)	3,166.67 r/o 3,167	

Note: Volume multiple is 300/200 =1.5 times

Answer: 4 (b)

Crushing Process Account

Particulars	Tons	Amount Rs.	Particulars	Tons	Amount Rs.
To Copra	2,000	1,00,000	By Copra Sacks	-	2,000
To Labour		10,000	By Copra Residue	250	5,000
To Sundry Materials		4,000	By Loss in Crushing (Balancing Figure)	50	-
To Electric Power		3,000	By Transfer to Refining @ Rs.70 per ton	1,700	1,19,000
To Steam		2,000			
To Repairs of Machines		2,000			
To Factory Expenses*		5,000			
	2,000	1,26,000		2,000	1,26,000

Refining Process Account

Particulars	Tons	Amount	Particulars	Tons	Amount Rs.
To Crushing Process a/c	1,700	1,19,000	By Sale of By Products	120	5,100
To Labour		6,000	By Loss in Refining Process Balancing Figure)	40	-

Suggested Answer_Syl16_Dec2018_Paper 8

To Sundry Materials		3,000			-
To Electric Power		2,000	By Transfer to Finishing Process @ Rs. 85 per ton	1,540	1,30,900
To Steam		2,000			
To Repairs of Machines		1,000			
To Factory Expenses*		3,000			
	1,700	1,36,000		1,700	1,36,000

Finishing Process Account

Particulars	Tons	Amount Rs.	Particulars	Tons	Amount Rs.
To Refining Process a/c	1,540	1,30,900	By Loss in Finishing Balancing Figure)	40	-
To Labour		4,000	By Cost of Production Transferred to Finished Oil a/c @ Rs.95 per ton	1,500	1,42,500
To Sundry Materials		2,000			
To Electric Power		1,600			
To Steam		1,500			
To Repairs of Machines		500			
To Factory Expenses		2,000			
	1,540	1,42,500		1,540	1,42,500
To Cost of Production of Finished Oil	1,500	1,42,500	By Total Cost @ Rs. 100 per Ton	1,500	1,50,000
To Cost of Casks		7,500			
	1,500	1,50,000		1,500	1,50,000

Working Note:

*Factory overhead of Rs. 10,000 is apportioned in the ratio of labour cost, i.e. 5:3:2.

5. (a) GOLDEN TRANSPORT CO. has been given a route 20km. long for running buses. The company has a fleet of 10 buses each costing Rs.60,000 and having a life of 5 years without any scrap value.

The following are estimated expenditure and other details:

(i)	**Insurance charges**	**3% p. a.**
(ii)	**Annual tax for each bus**	**Rs.3,000**
(iii)	**Total garage charges**	**Rs.4,000 p.m.**
(iv)	**Driver's salary for each bus**	**Rs.10,000 p. m.**
(v)	**Conductor's salary for each bus**	**Rs.7,000 p. m.**
(vi)	**Annual repairs to each bus**	**Rs.6,000**
(vii)	**Commission to be shared by the driver and conductor equally: 10% of the takings**	
(viii)	**Cost of stationary**	**Rs.1,500 p. m.**
(ix)	**Manager's salary**	**Rs.12,000p.m**
(x)	**Accountant's salary**	**Rs.9,000 p.m.**
(xi)	**Petrol and oil**	**Rs.400 per 100 km**

Suggested Answer_Syl16_Dec2018_Paper 8

Each bus will make 3 round trips carrying on an average 40 passengers on each trip. The bus will run on an average for 25 days in a month.
Assuming 15% profit on takings, Calculate the bus fare to be charged from each passenger. 8

(b) OMEGA LTD. undertook a contract for Rs.5,00,000 on 1st January, 2017. The company furnishes the following details for the year ended 31st December, 2017:

	Rs.
Materials consumed	**1,65,000**
Direct Expenses	**5,000**
Wages	**30,000**
Materials returned to stores	**5,000**
Materials stolen from site	**10,000**
Insurance claim admitted	**6,000**
Works expenses @ 20% on wages	
Office expenses @ 10% on works cost	
Materials in hand on 31.12.2017	**15,000**
Cash received to the extent of 90% of works certified	**2,70,000**
Cost of work uncertified	**11,000**

Plant sent to site costing Rs.60,000 with a scrap value of Rs.10,000 and its useful life is 5 years. The plant was used on the contract for 146 days.

Required:

Prepare Contract Account showing therein the cost of materials issued to site and the amount of profit or loss to be transferred to the Profit & Loss Account. 7

Answer: 5 (a)

Particulars	Amount Rs.
1. Insurance (Rs.60,000 × 3% × 10/12)	1,500
2. Tax (Rs.3,000 × 10/12)	2,500
3. Total Garage charges	4,000
4. Drivers' salary (Rs.10,000 × 10)	1,00,000
5. Conductors' salary (Rs.7,000 × 10)	70,000
6. Repairs (Rs.6,000 × 10/12)	5,000
7. Cost of stationary	1,500
8. Manager's salary	12,000
9. Accountant's salary	9,000
10. Depreciation (Rs.60,000 × 10/5 × 1/12)	10,000
11. Petrol * (30,000/100) × 400	1,20,000
12. Commission of conductor & driver 4,47,333 × (10/100)	44,733
13. Total Cost	3,80,233
14. (+) Profit @ 15% on takings (4,47,333 × 15/100)	67.100
15. Takings **	4,47,333

* 10 × 20 × 3 × 2 × 25 = 30,000

**Let 'X' be the takings

X = Rs.3,35,500 + (10/100 X) + (15/100 X)

100 X = Rs. 3,35,50,000 + 25X

⇨ X = Rs. 4,47,333

Fare per passenger Km = Rs.4,47,333 / (30,000 × 40) = **Re.** 0.3727 say Re.0.37

Answer: 5 (b)

Calculation of Cost of Materials issued to site

		Rs.
	Materials consumed	1,65,000
Add:	Materials stolen	10,000
	Materials returned to stores	5,000
	Materials in hand (31.12.2017)	15,000
		1,95,000

Contract Account
for the year ended 31st Dec. 2017

Dr.			Cr.
	Rs.		Rs.
To Materials issued to site	1,95,000	By Materials returned to stores	5,000
To Direct Expenses	5,000	By Insurance claim A/c (Loss of Stock)	6,000
To Wages	30,000	By Profit and Loss A/c (Stolen Rs. 10,000 – Rs.6,000)	4,000
To Works Expenses 20% of wages	6,000	By Materials in hand	15,000
To Office Expenses 10% of Works Cost (Note 1)	21,000	By Cost of Contract Balancing Figure)	2,31,000
To Depreciation on Plant (Note 2)	4,000		
	2,61, 000		2,61,000
To Cost of Contract b/d	2,31,000	By Work in Progress :	
To Notional Profit	80,000	Work certified	3,00,000
		Work uncertified	11,000
	3,11,000		3,11,000
To Profit & Loss A/c (Note 3)	48,000	By Notional Profit	80,000
To Profit Reserve	32,000		
	80,000		80,000

Working Notes:

1. **Calculation of works cost**

	Rs.
Materials consumed	1,65,000
Add: Direct Wages	30,000
Direct Expenses	5,000
Prime Cost	2,00,000
Add: Works expenses	6,000
Deprecation	4,000
	2,10,000

2. **Calculation of Depreciation on Plant**

Suggested Answer_Syl16_Dec2018_Paper 8

$$\text{Rs.} = \frac{60,000 - 10,000}{5} \times \frac{146}{365} = \text{Rs.}4,000$$

3. Profit to be credited to profit & Loss A/c

$$\frac{2}{3} \times \text{National Profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$

$$= \frac{2}{3} \times 80,000 \times \frac{2,70,000}{3,00,000} = \text{Rs.}48,000$$

6. (a) A company budgets for a production of 5 lakh units at a variable cost of Rs.20 each. The fixed costs are Rs.20 lakh. The selling price is fixed to yield a profit of 25% on cost.

You are required to calculate

(i) P/V Ratio and Break- even point.

(ii) If the selling price is reduced by 20%,

Ascertain:

(A) The effect of price reduction on the P/V Ratio and BEP.

(B) The number of units required to be sold at the reduced selling price to obtain an increase of 20% over the budgeted profit. 8

(b) AVONA LTD., a toy factory presents the following information for the year ended 31st March, 2018:

	Rs.
Material cost	**1,20,000**
Labour cost	**2,40,000**
Fixed overheads	**1,20,000**
Variable overheads	**60,000**
Units produced	**12,000**
Selling Price per Unit	**50**

The available capacity is a production of 20000 units per year. The firm has an offer for the purchase of 5000 additional units at a price of Rs.40 per unit. It is expected that by accepting this offer there will be a saving of rupee one per unit in material cost on all units manufactured, the fixed overhead will increase by Rs.35,000 and the overall efficiency will drop by 2% on all production.

State whether offer is acceptable or not. 7

Answer: 6 (a)

Workings:

Statement Showing Unit Sales Price

Particulars	Rs.
Budgeted Variable Cost per Unit	20.00
Budgeted Fixed Cost per Unit (Rs.20,00,000 / 5,00,000)	4.00
Total Budgeted Cost per Unit	24.00
Add : Profit (25% on Total Cost)	6.00
Per unit selling price	30.00

Suggested Answer_Syl16_Dec2018_Paper 8

Statement of Budgeted Profit

Particulars	Rs.
Budgeted Sales (5,00,000 × Rs.30)	1,50,00,000
Less : Variable Cost (5,00,000 × Rs.20)	1,00,00,000
Contribution	50,00,000
Less : Budgeted Fixed Cost	20,00,000
Budgeted Profit	30,00,000

OR

Budgeted Profit = Contribution (C)per Unit X Total Production Units – Fixed Cost

= {(Rs. 30 – Rs. 20) X 5,00,000} – Rs. 20,00,000 = Rs. 30,00,000

I P/V Ratio = (Contribution/ Sales) X 100 = (50,00,000/1,50,00,000) X 100 =(100/3)%

Or , P/V ratio = $\frac{10}{30}\times 100 = 33\frac{1}{3}\%$ **(Or 100/3%)**

BEP (in units) = $\frac{F}{C \text{ per unit}} = \frac{20,00,000}{10} = 2,00,000 \text{ units}$

Or , BEP (in Rs.) = $\frac{F}{P/V \text{ Ratio}} = \frac{`\ 20,00,000}{33\frac{1}{3}\%} = `\ 60,00,000$

II (a) New P/V ratio = $\frac{\text{New C}}{\text{New SP}}\times 100 = \frac{`\ 24-20}{`\ 30-6}\times 100 = 16\frac{2}{3}\%$ **(or 50/3%)**

New BEP (in Units) = $\frac{\text{Fixed cost}}{\text{New SP - VC}} = \frac{`\ 20,00,000}{`\ 24-20} = 5,00,000 \text{ units}$

Or , New BEP (in **Rs.**) = (F/ New P/V ratio) = (20,00,000/50/3%)= 1,20,00,000

(b) Sales units needed to attain 20% more than Budgeted Profit at reduced Selling Price.

Desired profit = Budgeted Profit + 20% of Budgeted Profit

= 30,00,000 + 6,00,000 = **Rs.**36,00,000

Sales (units) required = $\frac{\text{Fixed costs + Desired profit}}{\text{Contribution per unit}}$

= $\frac{20,00,000 + 36,00,000}{`\ 4 \text{ per unit}} = 14,00,000 \text{ units}$

Answer: 6 (b)

Profitability Statement for the year ended31st March, 2018

Particulars		Total Rs.	Per unit Rs.
Sales	(A)	6,00,000	50

Suggested Answer_Syl16_Dec2018_Paper 8

Variable Cost:			
Materials		1,20,000	10
Labour		2,40,000	20
Variable overhead		60,000	5
Total	(B)	4,20,000	35
Contribution	(A) – (B)	1,80,000	15
Less: Fixed overheads		1,20,000	10
Profit		60,000	5

Profitability Statement (17000 units at 85% capacity) → (including 5,000 units special offer)

			Rs.	Mark/s
Sales				
Existing:	(12000x Rs.50)		6,00,000	
Additional:	(5000x Rs.40)		2,00,000	
	17,000 Units	Total (A)	8,00,000	**0.5 +0.5**
Variable Cost :				
Material (17,000 × (Rs. 10 – Re. 1) or (17000 x Rs.9)			1,53,000	**0.5**
Labour (17,000× (Rs. 20 – 2% Drop) or (17000 x 20.40)			3,46,800	**0.5**
Variable Overhead	(17000 xRs. 5)		85,000	
Total (B)			5,84,800	**0.5**
Contribution		(A) – (B)	2,15,200	**0.5**
Less: Fixed Costs (Rs. 1,20,000 + Rs.35,000 increase)			1,55,000	**0.5**
Profit			60,200	**0.5**

Analysis: With the acceptance of special offer of 5,000 Units, the Profit is increased by Rs. 200 (i.e. Rs. 60,200 – Rs. 60,000). Hence, the firm can accept the special offer.

[Working Notes as under may be shown separately or as shown in above table "Profitability Statement"]

		Rs.
1. Material cost per unit		10
Less : 10% decrease		1
	Total	9
2. Labour Cost per unit		20.00
Add : 2% drop in efficiency		0.40
	Total	20.40
3. Present Production units		12,000
Add : Addl. Production units		5,000
	Total	17,000
4. Present Fixed Cost		1,20,000
Add: Increase		35,000
	Total	1,55,000

Suggested Answer_Syl16_Dec2018_Paper 8

Alternative

Labour Cost if taken at Rs.20.41 in the working. An alternative answer with an incremental approach lead to the same analysis.

PARTICULARS	Amount in Rs.
Sales (5000*40)	2,00,000
Less: Variable Cost:	
Direct Materials (DM)(5000*9)	45,000
Direct Labour (DL)(5000*20)/0.98	1,02,041
Variable Overheads (VO/Hs)(5000*5)	25,000
Contribution	27,959
Add :Savings in Materials (12000*1)	12,000
Less: Additional Labour Cost (ADLC) (12000*0.41)	4,920
Less: Increase in Fixed cost	35,000
Net Surplus	39
Decision : It is better to Accept the offer	

7. (a) The details regarding the composition and the weekly wage rates of labour force of PB LTD engaged on a job scheduled to be completed in 30 weeks are as follows:

Category of Workers	Standard		Actual	
	No. of Workers	Weekly Wage Rate per worker (Rs.)	No. of Workers	Weekly Wage Rate per worker (Rs.)
Skilled	75	60	70	70
Semi-Skilled	45	40	30	50
Unskilled	60	30	80	20

The work is actually completed in 32 weeks.
Calculate the following Labour Variances: 8

(i) Labour Cost Variance (LCV)
(ii) Labour Rate Variance (LRV)
(iii) Labour Efficiency Variance (LEV)
(iv) Labour Revised Efficiency Variance (LREV)
(v) Labour Mix Variance (LMV)

(b) NP LTD produces a standard product. The estimated costs are given below:

	Rs.
Raw Materials	10
Direct Wages	8
Direct Expenses	2
Variable Overheads	3

Suggested Answer_Syl16_Dec2018_Paper 8

	23

Semi-variable overheads at 100% capacity level (10,000 units) are expected to be Rs.40,000 and these overheads vary in steps of Rs.2,000 for each change in output of 1,000 units. Fixed overheads are estimated at Rs.50,000. Selling price per unit is expected to be Rs.40.

Required:
Prepare a Flexible Budget at 50%, 70% and 90% level of activity on marginal cost basis. 7

Answer: 7 (a)

In the question no information is given regarding standard time and actual time, so it is computed as follows :

(In Weeks)

Category	Standard time (ST)	Actual Time (AT)
Skilled	75 × 30 = 2,250	70 × 32 = 2,240
Semiskilled	45 × 30=1,350	30 × 32 = 960
Unskilled	60 × 30=1,800	80 × 32 = 2,560

Now all information can be arranged as follows :

Category	Standard			Actual			Revised
	Time	Rate	Cost	Time	Rate	Cost	Time
	ST	SR (Rs.)	SC(Rs.)	AT	AR(Rs.)	AC(Rs.)	RST
Skilled	2,250	60	1,35,000	2,240	70	1,56,800	2,400
Semiskilled	1,350	40	54,000	960	50	48,000	1,440
Unskilled	1,800	30	54,000	2,560	20	51,200	1,920
Total	5,400	-	2,43,000	5,760	-	2,56,000	5,760

Revised standard time is computed as follows:

Skilled worker : $\frac{2,250}{5,400} \times 5,760 = 2,400 \text{ hrs}$.

Semiskilled worker : $\frac{1,350}{5,400} \times 5,760 = 1,440 \text{ hrs.}$

Unskilled worker : $\frac{1,800}{5,400} \times 5,760 = 1,920 \text{ hrs.}$

Variances are computed as follows:

LCV = TSC – TAC = 2,43,000-2,56,000 = Rs. 13,000 (A)

(i) LRV = AT (SR – AR)

Skilled : 2,240 (60 – 70) = Rs. 22,400 (A)

Semiskilled : 960 (40 – 50) = Rs. 9,600 (A)

Unskilled : 2,560 (30 – 20) = Rs. 25,600 (F) Rs. 6,400 (A)

(ii) LEV = SR (ST-AT)

Skilled : 60 (2,250 – 2,240) = Rs. 600 (F)

Semiskilled : 40 (1,350 – 960) = Rs. 15,600 (F)
Unskilled : 30 (1,800 – 2,560) = Rs. 22,800 (A) Rs. 6,600 (A)

(iii) LREV = SR (ST – RST)
Skilled : 60 (2,250 – 2,400) = Rs. 9,000 (A)
Semiskilled : 40 (1,350 – 1,440) = Rs. 3,600 (A)
Unskilled : 30 (1,800 – 1,920) = Rs. 3,600 (A) Rs. 16,200 (A)

(iv) LMV = SR (RST – AT)
Skilled : 60 (2,400 – 2,240) S = Rs. 9,600 (F)
Semiskilled : 40 (1,440 – 960) = Rs. 19,200 (F)
Unskilled : 30 (1,920 – 2,560) = Rs. 19,200 (A) Rs. 9,600 (F)

Answer to Question No. 7 (b):

Flexible Budget

Particulars	Capacity Levels		
	50%	70%	90%
Output in Units	5,000	7,000	9,000
Prime Cost:	Rs.	Rs.	Rs.
Materials	50,000	70,000	90,000
Direct Wages	40,000	56,000	72,000
Direct Expenses	10,000	14,000	18,000
	1,00,000	1,40,000	1,80,000
Variable Overheads	25,000	35,000	45,000
Marginal Cost (1 + 2)	1,25,000	1,75,000	2,25,000
Sales	2,00,000	2,80,000	3,60,000
Contribution (4 – 3)	75,000	1,05,000	1,35,000
Fixed Costs	70,000	70,000	70,000
Profit (5 – 6)	5,000	35,000	65,000

Working Note:
Semi – variable Expenses have been classified into Fixed and Variable elements as under :
Per Unit Variable Cost = Rs.2000 ÷ 1,000 = Rs. 2

Fixed Costs = Rs.40,000 – Rs.(10,000 x 2) = Rs. 20,000

Total Variable Overheads per Unit = Rs 3+ Rs. 2 = Rs. 5

Total Fixed Overhead = Rs.50,000 + Rs. 20,000 = Rs. 70,000

8. Answer any three out of the following four questions: 5×3= 15
(a) State the advantages of cost control (any five).

(b) Describe briefly the main scope of cost accountancy.

(c) What is just-in-time (JIT) system? List out its main benefits.

(d) Write a brief note on Performance Budgeting describing its main concepts.

Suggested Answer_Syl16_Dec2018_Paper 8

Answer to Question No. 8 (a):

Advantages of Cost Control

The advantages of cost control are mainly as follows:

(i) Achieving the expected return on capital employed by maximising or optimizing profit.
(ii) Increase in productivity of the available resources.
(iii) Reasonable price of the customers.
(iv) Continued employment and job opportunity for the workers.
(v) Economic use of limited resources of production.
(vi) Increased credit worthiness.
(vii) Prosperity and economic stability of the industry.

Answer to Question No. 8 (b):

Scope of Cost Accountancy

The scope of cost accountancy is very wide and includes the following:

(a) **Cost Ascertainment**: The main objective of cost accounting is to find out the cost of product/service rendered with reasonable degree of accuracy.
(b) **Cost Accounting**: It is the process of accounting for cost which begins with recording of expenditure and ends with preparation of statistical data.
(c) **Cost Control**: It is the process of regulating the action so as to keep the element of cost within the set parameters.
(d) **Cost Reports**: This is the ultimate function of Cost Accounting. These reports are primarily prepared for use by the management at different levels. Cost Reports help in planning and control, performance appraisal and managerial decision making.
(e) **Cost Audit**: Cost Audit is the verification of correctness of Cost Accounts and check on the adherence to the Cost Accounting Plan, its purpose is not only to ensure the arithmetic accuracy of cost records but also to see the principles and rules have been applied correctly.

Answer to Question No. 8 (c):

Just –in –Time (JIT)

Just in Time 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.

Suggested Answer_Syl16_Dec2018_Paper 8

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

(a) 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.
(b) 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.
(c) Reduces the working capital requirements, as very little inventory is maintained.
(d) Minimizes storage space.
(e) Reduces the chance of inventory obsolescence or damage.

Answer to Question No. 8 (d):

Performance Budgeting

Performance Budgeting is synonymous with Responsibility Accounting which means the responsibility of various levels of Management is predetermined in terms of output or result keeping in view the authority vested with them.

The main concepts of such a system are enumerated below:

(a) It is based on a classification of managerial level for the purpose of establishing a budget for each level. The individual in-charge of that level should be made responsible and held accountable for its performance over a given period of time.
(b) The starting point of the performance budgeting system rests with the organisation chart in which the spheres of jurisdiction have been determined. Authority leads to the responsibility for certain costs and expenses which are forecasted or present in the budget with the knowledge of the manager concerned.
(c) The cost in each individual`s or department`s budget should be limited to the cost controllable by him.
(d) The person concerned should have the authority to bear the responsibility.

Suggested Answer_Syl16_June2019_Paper 8

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.**

Suggested Answer_Syl16_June2019_Paper 8

(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

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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:

Suggested Answer_Syl16_June2019_Paper 8

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

Suggested Answer_Syl16_June2019_Paper 8

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

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(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.

INTERMEDIATE EXAMINATION

GROUP -II
(SYLLABUS 2016)

SUGGESTED ANSWERS TO QUESTIONS

DECEMBER- 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 Romannumeral and the alphabet chosen for your answer): 1×10=10

(i) Costs which are ascertained after they have been incurred are known as
- **(A) Sunk Costs**
- **(B) Imputed Costs**
- **(C) Historical Costs**
- **(D) Opportunity Costs**

(ii) Prime cost plus variable overheads is known as
- **(A) Factory Cost**
- **(B) Marginal Cost**
- **(C) Cost of Production**
- **(D) Total Cost**

(iii) In which of thefollowing methods, issue of materials are priced atpre-determined rate?
- **(A) Specific price method**
- **(B) Standard price method**
- **(C) Inflated price method**
- **(D) Replacement price method**

(iv) For reducing the labour cost per unit, which of the following factors is the most important?

(A) Low wage rates
(B) Longer hours of work
(C) Higher input-output ratio
(D) Strict control and supervision

(v) Maximum possible productive capacity of a plant when no operating time is lost is its

(A) Normal capacity
(B) Practical capacity
(C) Theoretical capacity
(D) Capacity based on sales expectancy

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

(A) Goods Receipt Note
(B) Purchase Order
(C) Purchase Requisition Note
(D) Material Requisition Note

(vii) The main purpose of accounting of joint products and by-products is to

(A) determine the profit/loss on each product line.
(B) determine the selling price.
(C) comply with the statutory requirements.
(D) identify the cost and load it on the main product.

(viii) During a period 2560 labour hours were worked at a standard rate of Rs. 7.50 per hour. The direct labour efficiency variance was Rs. 825 (A). How many standard hours were produced?

(A) 2400
(B) 2450
(C) 2500
(D) 2550

(ix) PQR Ltd. manufactures a single product which it sells forRs.40per unit. Fixed cost is Rs. 60,000 per year. The contribution to sales ratio is 40%. PQR Ltd.'s Break Even Point in units is

(A) 3500
(B) 3700
(C) 3750
(D) 4000

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2019_PAPER-8

(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)	Notional cost	A	Replacement method
(ii)	Labour turnover	B	Cost of utilities
(iii)	CAS-10	C	Production strategy
(iv)	Contract costing	D	Direct expenses
(v)	JIT	E	Costing department
		F	Imputed cost
		G	Escalation clause
		H	Decision package

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

(i) Profit is the result of two varying factors sales and variable cost.

(ii) Bin card is a record of both quantities and value.

(iii) Overtime premium is directly assigned to cost object.

(iv) In Reconciliation statements, expenses shown only in financial accounts areadded to financial profit.

(v) P/V ratio remains constant at all levels of activity.

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

(i) _____ costs are historical costs which are incurred in the past.

(ii) In Absorption costing, _____ cost is added to inventory.

(iii) CAS-2 deals with Cost Accounting Standard on _____ determination.

(iv) _____is the summary of all functional budgets.

(v) Standard costing is one of the _____ techniques.

Answer:

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

(b)

	Column I		Column II
(i)	Notional cost	F	Imputed cost
(ii)	Labour turnover	A	Replacement method
(iii)	CAS-10	D	Direct expenses
(iv)	Contract costing	G	Escalation clause
(v)	JIT	C	Production strategy

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

(d) (i) Sunk
(ii) Fixed
(iii) Capacity
(iv) Master budget
(v) Cost Control

Section - B

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

15 × 5 = 75

2. (a) ZION LTD uses three types of materials A, B and C for production of Product-P for which the following data apply:

Raw Material	Usage per unit of Product (kgs)	Reorder quantity (kgs)	Price per Kg (Re.)	Delivery period (in weeks)			Reorder level (kgs)	Minimum level (kgs)
				Minimum	Average	Maximum		
A	10	10000	0.10	1	2	3	8000	?
B	4	5000	0.30	3	4	5	4750	1550
C	6	10000	0.15	2	3	4	?	2000

Weekly production varies from 175 to 225 units, averaging 200 units of the said product.

What would be the following quantities? 9

(i) Minimum stock of A,
(ii) Maximum stock of B,
(iii) Re-order level of C,
(iv) Average stock level of A.

(b) In a manufacturing unit of EXOTICA LTD overhead was recovered at a predetermined rate of Rs. 30 per man-day. The total factory overhead incurred and the man-days actually worked were Rs. 5,20,000 and 12,500 respectively.

Out of the 40000 units produced during a period, 30000 units were sold. There were also 30000 uncompleted units which may be reckoned at 60% complete.

On analysing the reasons, it was found that 50% of the unabsorbed overheads were due to defective planning and the rest were attributable to increased overhead costs. How would unabsorbed overhead be treated in Cost Accounts? 6

Answer:

2. (a) (i) Minimum stock of A
Re-order level - (Average rate of consumption x Average time required to obtain fresh delivery)
= 8,000kgs. - (200 x 10 x 2) kgs = 4,000 kgs.

(ii) Maximum stock of B
Re-order level - (Minimum consumption x Minimum delivery period) + Re-order quantity
= 4,750kgs. - (175 x 4 x 3)kgs. + 5,000kgs.
= 9,750 - 2,100 = 7,650 kgs.

(iii) Re-order level of C
Maximum delivery period x Maximum usage
= 4 x 225 x 6 = 5,400 kgs.
OR
Re-order level of C
= Minimum stock of C + [Average rate of consumption x Average time required to obtain fresh delivery]
= 2,000kgs. + [(200 x 6) x 3] kgs. = 5,600 kgs.

(iv) Average stock level of A
= Minimum stock level of A + ½ Re-order quantity of A
= 4,000kgs.+ ½ x 10,000kgs. = 4,000kgs. + 5,000kgs. = 9,000 kgs.
OR
Average Stock Level of A

$$\frac{\text{Minimum Stock level of A + Maximum Stock Level of A}}{2}$$ = (Refer to working note)

$$\frac{4,000 + 16,250}{2}$$ = 10,125 Kgs.

Working note:
Maximum stock level of A = ROL+ ROQ - (Minimum consumption x Minimum re-order period)
= 8,000kgs. + 10,000kgs.- [(175 x 10) x 1] kgs.
= 16,250 kgs.

(b)

	Amount (Rs.)
Overheads incurred	5,20,000
Less: Overheads absorbed (12,500 man-days * Rs.30)	3,75,000
Under absorption	1,45,000

The under absorption of Rs. 1,45,000 being considerable whether due to defectiveplanning or due to increase in prices, would be disposed off by applyingSupplementary Overhead Rate in the following manner:

Supplementary Overhead Rate = Rs. 1,45,000/[{30,000+10,000+(30,000*60%)}Units]
= Rs. 1,45,000/58,000 units = Rs. 2.50 per Unit

To be absorbed on cost of goods sold = 30,000 Units×Rs. 2.50 = Rs.75,000

To be absorbed on closing stock = 10,000 Units ×Rs. 2.50 = Rs. 25,000

To be absorbed on work-in-progress = 30,000Units ×Rs.2.50×60% =Rs. 45,000

ALTERNATIVE ANSWER 2(b):

	Amount (Rs.)
Overheads incurred	5,20,000
Less: Overheads absorbed (12,500 man days × Rs.30)	3,75,000
Under absorption	1,45,000

Students may treat 50% of under-absorption (Rs. 72,500) due to defective Planning as Abnormal Loss to be debited to Costing Profit & Loss Account and balance Rs. 72,500 to be disposed off by applying Supplementary Overhead Rate in the following manner:

Supplementary Overhead Rate = Rs. $\frac{72,500}{[30,000+10,000+(30,000\times60\%)]\text{units}}$

= Rs. 72,500 /58,000 units = Rs. 1.25 per unit.

To be absorbed on Cost of Goods Sold = 30,000 units × Rs.1.25 = Rs.37,500

To be absorbed on Closing Stock = 10,000 units × Rs. 1.25 = Rs 12,500

To be absorbed on Work-in-progress = 30,000 units × Rs.1.25× 60% = Rs. 22,500

3. (a) What are the objectives and scope of Cost Accounting Standard (CAS-4) (Revised 2018) on "Cost of Production/Acquisition/Supply of Goods/Provision of Services"? 6

(b) Pass the Journal entries for the following transactions in a double entry cost accounting system: 9

Particulars	Amount (Rs.)
(i) Issue of material:	
Direct	**6,50,000**
Indirect	**2,50,000**
(ii) Allocation of wages and salaries:	
Direct	**2,60,000**
Indirect	**40,000**
(iii) Overheads absorbed in jobs:	
Factory	**1,50,000**
Administration	**30,000**
Selling	**50,000**
(iv) Under/over absorbed overheads:	
Factory (over)	**25,000**
Administration (under)	**12,500**

(Narration is not required)

Answer:

3. (a) CAS-4 (REVISED 2018) on "Cost of Production/Acquisition/Supply of Goods/Provision of Services"

Objectives: The objective of this Standard is to bring uniformity and consistency in the principles and methods of determining the cost of production or acquisition or supply of Goods or provision of servicesas required under the provisions of GST Act/Rules.

The cost statements prepared based on this Standard will be used for determinationof value of supply of Goods or services or both. This Standard and its disclosurerequirement will provide transparency in the valuation of Goods and services.

This Standard shall further ensure adequate accuracy in computing TransactionValue of supply for Goods orservices or both, where the open market value of supply of Goods and services or value of supply of Goods orservices of like kind and quality are not available or same is not verifiable.

Scope: This Standard should be applied to cost statements which requireclassification, measurement, assignment, presentation, and disclosure of related costs for determination of the following under the relevant provisions of GST Act/Rules:

(i) Determination of cost of production of Goods;
(ii) Determination of cost of acquisition of Goods;
(iii) Determination of cost of supply of Goods;
(iv) Determination of cost of provision/supply of services; and
(v) Determination of value of supply of goods or services as per open market value oras per Goods orservices of like kind and quality.

(b)

JournalDr.Cr.

S.No.	Particulars		Amount (Rs.)	Amount (Rs.)
1	Work in Progress Control A/C	Dr.	6,50,000	
	Factory Overheads Control A/C	Dr.	2,50,000	
	To Material Control A/C			9,00,000
2	Work in Progress Control A/C	Dr.	2,60,000	
	Factory Overheads Control A/C	Dr.	40,000	
	To Wages Control A/C			3,00,000
3	Work in Progress Control A/C	Dr.	1,50,000	
	Finished Goods Control A/C	Dr.	30,000	
	Cost of Sales A/C	Dr.	50,000	
	To Factory Overheads Control A/C			1,50,000
	To Administrative Overhead Control A/C			30,000
	To Selling Overhead Control A/C			50,000
4	Factory Overheads Control A/C	Dr.	25,000	
	To Costing Profit & Loss A/C			25,000
5	Costing Profit & Loss A/C	Dr.	12,500	
	To Administrative Overheads Control A/C			12,500

4. (a) SARATHI & CO is manufacturing building bricks and fire bricks. Both the products require two processes: Brick forming and Heat treatment. The requirements for the two bricks are:

	Building Bricks	**Fire Bricks**
Forming per 100 bricks	**6 hours**	**4 hours**
Heat treatment per 100 bricks	**4 hours**	**10 hours**

Total costs of the two departments in one month were:

Forming **Rs. 42,400**
Heat treatment **Rs. 97,600**
Production during the month was:
Building Bricks **130000 numbers**
Fire Bricks **70000 numbers**

Required:
Prepare statement of manufacturing cost for the two varieties of bricks. **7**

(b) REACON LTD is engaged in process Engineering Industry. During a month 4000 units of input were introduced in Process B at a cost of Rs. 20,000. The normal loss was estimated at 10% of input. The process costs were direct materials Rs. 10,425, direct wages Rs. 20,400 and factory overhead 50% of direct wages. At the end of the month 3200 units were produced and transferred to Process C, 500 units were scrapped and realised @ Rs. 5 per unit. Scrapped units were 50% processed. 300 units wereincomplete and the stage of completion was material 75%, wages and overhead 50%.

Required:
(i) Find out equivalent production, cost per completed unit, value of work-in-progress and
(ii) Prepare Process B account. **8**

Answer:

4. (a)

Statement showing number of hours

Particulars	Building Bricks	Fire Bricks	Total
Forming: $(\frac{1,30,000}{100} \times 6)$ $(\frac{70,000}{100} \times 4)$	7,800	2,800	10,600
Heat Treatment $(\frac{1,30,000}{100} \times 4)$ $(\frac{70,000}{100} \times 10)$	5,200	7,000	12,200
Total	13,000	9,800	22,800

Cost of Forming per hour $=\frac{Rs.42,400}{10,600}$ = Rs.4

Cost of Heat Treatment per hour $=\frac{Rs.97,600}{12,200}$ = Rs.8

Statement showing manufacturing cost of two varieties of bricks:

Particulars	Building Bricks Rs.	Fire Bricks Rs.	Total Rs.
Forming: (7,800 Hrs. × Rs. 4) (2,800 Hrs. × Rs. 4)	31,200	11,200	42,400
Heat Treatment (5,200 Hrs. × Rs. 8) (7,000 Hrs. × Rs. 8)	41,600	56,000	

			97,600
Total	72,800	67,200	1,40,000

ALTERNATIVE PRESENTATION OF SECOND PART AS UNDER:

Where students consider Cost of Production per 100 Bricks:

Statement showing manufacturing cost of two varieties of bricks:

Particulars	Building Bricks Rs.	Fire Bricks Rs.	Total Rs.
Forming: (6 Hrs. × Rs. 4) (4 Hrs. × Rs. 4)	24	16	40
Heat Treatment (4 Hrs. × Rs. 8) (10 Hrs. × Rs. 8)	32	80	112
Total	56	96	152

(b) (i) Statement of Equivalent Production:

Input	Particulars of output	Units	Equivalent Production					
			Material I (Input)		Material II (Added)		Labour& Overhead	
			%	Units	%	Units	%	Units
4,000	Fully completedand transferred to process C	3,200	100	3,200	100	3,200	100	3,200
	Normal Wastage	400	---	---	---	---	---	---
	Abnormal Wastage	100	100	100	50	50	50	50
_____	WIP at end	300	100	300	75	225	50	150
4,000	Total	4,000		3,600		3,475		3,400

Statement of Cost

Elements of Cost	Amount (Rs.)	Equivalent Production (Nos.)	Unit Cost (Rs.)
Material I (Input) (Rs. 20,000–Rs. 2,000)	18,000	3,600	5.00
Material II (Added)	10,425	3,475	3.00
Wages	20,400	3,400	6.00
Overheads	10,200	3,400	3.00
Total	59,025	-	17.00

Statement of Evaluation

Elements of Cost	Unit Cost (₹)	Work in Progress		Abnormal Loss	
		E.P.	Cost (Rs.)	E.P.	Cost (Rs.)
Material I	5.00	300	1,500	100	500
Material II	3.00	225	675	50	150
Wages	6.00	150	900	50	300
Overheads	3.00	150	450	50	150
Total	17.00		3,525		1,100

(ii)

Dr. Process B Account Cr.

Particulars	Units	₹	Particulars	Units	Rs.
To Input	4,000	20,000	By Normal Wastage	400	2,000
To Materials Added		10,425	By Abnormal Wastage	100	1,100
To Wages		20,400	By Work-in-Progress	300	3,525
To Overheads	_____	10,200	By Process C (3,200×Rs. 17)	3,200	54,400
	4,000	61,025		4,000	61,025

5. (a) HOTEL IREVNA INN, has a capacity of 200 single rooms and 40 double rooms. The average occupancy of both single and double rooms is expected to be 80% throughout the year of 365 days. The rent for double room has been fixed at 125% of the rent of a single room. The costs are as under:

Variable Costs :	**Single Rooms**	**Rs. 110 each per day**
	Double Rooms	**Rs. 175 each per day**
Fixed Costs:	**Single Rooms**	**Rs. 60 each per day**
	Double Rooms	**Rs. 125 each per day**

Required:

Calculate the rent chargeable for each single room and double room per day in such a way that the hotel earns a margin of safety of 20% on rent of rooms. 7

(b) OMEGA LTD undertook a contract for the construction of a building at a contract price of Rs. 45,00,000. During the first year, the following amounts were spent against which a sum of Rs. 16,87,500 (representing 90% of the work certified) was received by the contractor:

	Rs.
Materials used	**7,87,500**
Wages paid to the workers	**4,50,000**
Overhead expenses	**1,12,500**

During the second year, the contractor spent the following amounts:

	Rs.
Materials used	**11,25,000**
Wages paid to the workers	**9,00,000**
Overhead expenses	**2,25,000**

In the second year, the contract was completed and a sum of Rs.26,25,000 was received by the contractor.

You are required to prepare the Contract Account and the Contractee Account for both the years and determine the profits. 8

Answer:

5. (a)

Occupancy (Number of room days in a year):

Nature of Room	Occupancy
Single Rooms	200 × 365 × 80% = 58,400 Room days
Double Rooms	40 × 365 × 80% = 11,680 Room days

Computation of Total Cost:

Variable Costs:	Amount (Rs.)	Amount (Rs.)
Single Rooms (58,400 Room days × Rs. 110)	64,24,000	

Double Rooms (11,680 Room days × Rs. 175)	20,44,000	84,68,000
Fixed Costs:		
Single Rooms (58,400 Room days × Rs. 60)	35,04,000	
Double Rooms (11,680 Room days × Rs. 125)	14,60,000	49,64,000
Total Costs		1,34,32,000

Computation of Total Revenue:
Margin of safety 20%, Break Even Point 80%
Sales at BEP = Total Cost = Rs. 1,34,32,000
Total Revenue = Rs. 1,34,32,000 / 0.80 = Rs. 1,67,90,000

Computation of Notional Single Rooms Day:

Single Rooms	(58,400 × 1)	58,400
Double Rooms	(11,680 × 1.25)	14,600
Total:		73,000

Computation of Room Rent:

Rent per day per Single Room	= Rs. 1,67,90,000 / 73,000	=Rs. 230
Rent per day per Double Room	= Rs. 230 × 1.25	= Rs.287.50

(**b):** Contract Account

(At the end of 1st Year)

Particulars	Rs.	Particulars	Rs.
To Materials Used	7,87,500	By Work-in-Progress (16,87,500 / 0.90)	18,75,000
To Wages Paid	4,50,000		
To Overhead Expenses	1,12,500		
To Notional Profit c/d	5,25,000		-
	18,75,000		18,75,000
To Profit & Loss A/c (Rs. 5,25,000$\times \frac{1}{3} \times$ 90%)	1,57,500	By Notional Profit b/d	5,25,000
To Work-in- Progress (Reserve)	3,67,500		
	5,25,000		5,25,000

Contractee Account

Particulars	Rs.	Particulars	Rs.
To Balance c/d	16,87,500	By Bank A/c	16,87,500
	16,87,500		16,87,500

Contract Account

(On completion of Contract in the 2nd Year)

Particulars	Rs.	Particulars	Rs.
To Work-in-Progress (Rs. 18,75,000 – Rs. 3,67,500)	15,07,500	By Contractee Account	45,00,000
To Materials Used	11,25,000		
To Wages Paid	9,00,000		
To Overhead Expenses	2,25,000		
To Profit & Loss A/c (Transfer)	7,42,500		-
	45,00,000		45,00,000

Contractee Account

Particulars	Rs.	Particulars	Rs.
To Contract A/c	45,00,000	By Balance b/d	16,87,500
		By Bank A/c	26,25,000
		By Balance c/d	1,87,500
	45,00,000		45,00,000

6. (a) PANCHAL LTD, a toy manufacturer earns an average net profit of Rs. 1.80 per piece on a selling price of Rs. 16.50 by producing and selling 12000 pieces or 60% of the capacity. His cost of sales per toy is as under:

	Amount (Rs.)
Direct material	**4.25**
Direct wages	**1.60**
Works Overheads (40% fixed)	**7.15**
Sales Overheads (30% fixed)	**0.90**

During the current year, he intends to produce the same number of toys but anticipates that fixed cost will go up by 10%. Direct wages and material will increase by 6% and 4% respectively but he has no option of increasing the selling price. Under this situation, he obtains an offer for further sale of 20% of the capacity.

Required:

What minimum price you will recommend for acceptance of the offer to ensure the manufacturer an overall profit of Rs. 30,100? 8

(Show your calculations upto 3 decimal points.)

(b) The following data pertaining to sales and profit are extracted from the records of READYAAH LTD. for two years:

	Sales	Profit
Year 2017	**Rs. 12,00,000**	**Rs. 80,000**
Year 2018	**Rs.14,00,000**	**Rs. 1,30,000**

Required:

Calculate the following:

(i) P/V Ratio

(ii) Break Even Point

(iii) Profit when sales are Rs. 18,00,000

(iv) Sales required to earn a profit of Rs. 1,20,000

(v) Margin of safety in the year 2018. 7

Answer:

6. (a)

Computation of Profit at present after increase in Cost

	Particulars	Amount (Rs.)	Amount (Rs.)
I.	Selling Price		16.500
II	Variable Cost:		
	Direct Material (4.25 × 104) / 100	4.420	
	Direct Wages (1.60 × 106) / 100	1.696	
	Works Overheads (60% of Rs. 7.15)	4.290	
	Sales Overheads (70% of Re. 0.90)	0.630	
	Other Variable Cost: (S.P Rs. 16.50) – (Profit Rs. 1.80) - Cost of Sales Rs.(DM 4.25 + DW 1.60 + WO 7.15 + SO 0.90)	0.800	11.836
III	Contribution per Unit/ Piece (I – II)		4.664
IV	Total Contribution (12,000 Units/Pieces × Rs. 4.664)		55,968
V	Fixed Cost:		
	Works Overheads	2.860	

	Sales Overheads	0.270	
		3.130	
	(Rs. 3.13 × 12,000 Units = Rs. 37,560 × 110) / 100		41,316
VI	Profit (IV – V)		14,652

Computation of Selling Price of the Offer:

Particulars	Amount (Rs.)
Variable Cost of order (4,000 Units/Pieces × Rs. 11.836	47,344
Add: Required Profit (Rs. 30,100 – Rs. 14,652)	15,448
∴ Sales required (in Rs.)	62,792
∴ Selling Price per Unit/Piece of the order = Rs. 62,792 / 4,000 Units/ Pieces	15.698 say Rs. 15.70

ALTERNATIVE ANSWER :6 (a)

Computation of Profit at present after increase in Cost

	Particulars	Amount (Rs.)
I	Net Profit per Piece	1.80
II	Total Pieces	12,000
III	Total Net Profit (I × II)	21,600
IV	Increased Direct Material Cost (Rs.4.25 × 4%) × 12,000	2,040
V	Increased Direct Wages Cost (Rs.1.60 × 6%) × 12,000	1,152
VI	Increased Works Overhead [{ (Rs.7.15 × 40%) × 12,000} × 10%]	3,432
VII	Increased Sales Overhead [{(Rs.0.90 × 30%) × 12,000} × 10%]	324
VIII	Net Profit after increase in Cost {III – (IV +V v + VI + VII)}	14,652
IX	Expected Net Profit	30,100
X	Net Profit required to be earned (IX – VIII)	15,448

Computation of Selling Price of the Offer:

	Particulars	Amount (Rs.)	Amount (Rs.)
I	Variable Cost:		
	Material (4.25 × 104) / 100	4.420	
	Wages (1.60 × 106) / 100	1.696	
	Works Overheads (60% of Rs. 7.15)	4.290	
	Sales Overheads (70% of Re. 0.90)	0.630	
	Other Variable Cost	0.800	11.836
II	Profit Per Piece (Rs. 15,448 / 4,000 Pieces)		3.862
III	Selling Price per Piece of the order (I + II)		15.698 Say Rs. 15.70

(b):

	Sales (Rs.)	Profit (Rs.)
Year 2017	12,00,000	80,000
Year 2018	14,00,000	1,30,000
Difference	2,00,000	50,000

(i) P/V Ratio = (Difference in Profit / Difference in Sales) × 100

∴ P/V Ratio = (Rs. 50,000/ 2,00,000)× 100 = 25%

Contribution in 2017 (Rs. 12,00,000× 25%	Rs. 3,00,000
Less: Profit	Rs. 80,000
= Fixed Cost	Rs. 2,20,000

ALTERNATIVELY

Contributioin in 2018 (Rs. 14,00,000× 25%)	Rs. 3,50,000
Less: Profit	Rs. 1,30,000
= Fixed Cost	Rs. 2,20,000

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(ii) Break Even Point = Fixed Cost / PV Ratio = Rs. 2,20,000 /25% = Rs. 8,80,000

(iii) Profit when sales are Rs. 18,00,000

Contribution (Rs. 18,00,000× 25%	Rs. 4,50,000
Less: Fixed Cost	Rs. 2,20,000
Profit	Rs. 2,30,000

(iv) Sales to earn a profit of Rs. 1,20,000
= (Fixed Cost + desired Profit) / PV Ratio
= (Rs. 2,20,000 + Rs. 1,20,000) / 25% Rs. 13,60,000

(v) Margin of Safety in 2018
=Actual Sales – Break Even Point
= Rs. 14,00,000 – Rs. 8,80,000 Rs. 5,20,000

7. (a) SUNRISE LTD, a manufacturing Company using Standard costing furnishes thefollowing information:

The standard mix to produce one unit of product A is as under:

Material P 2 kg @ Rs. 20 per kg
Material Q 3 kg @ Rs. 25 per kg
Material R 4 kg @ Rs.15 per kg

During the month of March 2019, 20 units of product A were actually produced and consumption of material was as under:

Material P 35 kg @ Rs.22 per kg
Material Q 60 kg @ Rs. 24 per kg
Material R 90 kg @ Rs.16 per kg

Required:

Calculate the following Material Variances: 8

(i) Material Cost Variance

(ii) Material Price Variance

(iii) Material Quantity Variance

(iv) Material Mix Variance

(v) Material Yield Variance

(Calculate upto 2 decimal points.)

(b) The monthly (September 2019) budgets for Production overhead Costs of TANISHA LTD for two levels of Activity were as follows:

Particulars	Capacity Level	
	60%	100%
Budgeted Production (Units)	15000	25000
	Rs.	Rs.
Wages	60,000	1,00,000
Consumable Stores	45,000	75,000

Maintenance	**55,000**	**75,000**
Power and Fuel	**80,000**	**1,00,000**
Depreciation	**2,00,000**	**2,00,000**
Insurance	**50,000**	**50,000**
	4,90,000	**6,00,000**

Required:

(i) Prepare Production overhead Costs Budget of 80% and 90% Capacity level for September, 2019 and

(ii) Compute the total Cost, both fixed and variable overheads per unit of output at 80% and 90% Capacity level. 7

Answer:

7 (a):

Statement showing Standard and Actual Material Cost:

	Standard for 20 Units			Actual for 20 Units		
Material	Qty. (Units)	Rate (Rs.)	Amount (Rs.)	Qty. (Units)	Rate (Rs.)	Amount (Rs.)
P	40	20	800	35	22	770
Q	60	25	1,500	60	24	1,440
R	80	15	1,200	90	16	1,440
Total	180		3,500	185		3,650

(i) Material Cost Variance
= Standard Cost (SC) – Actual Cost (AC)
= Rs. 3,500 – Rs. 3,650 = Rs. 150 (A)

(ii) Material Price Variance
= Actual Quantity [Standard Price (SP) – Actual Price (AP)]
Material P = 35 (Rs.20 – Rs. 22) = Rs. 70 (A)
Material Q = 60 (Rs. 25 – Rs.24) = Rs. 60 (F)
Material R = 90 (Rs.15 – Rs.16) =Rs. 90 (A)
= Rs. 100 (A)

(iii) Material Quantity (Usage) Variance
= SP (SQ – AQ) where Q = Quantity
Material P = 20 (Rs.40 – Rs. 35) = Rs. 100 (F)
Material Q = 25 (Rs. 60 – Rs.60) = Nil
Material R = 15 (Rs.80 – Rs.90) =Rs. 150 (A)
= Rs. 50 (A) **1**

(iv) Material Mix Variance
= SP (Revised SQ- AQ)
Material P = 20 (kgs.41.11 – Rs. 35) = Rs. 122.20 (F)
Material Q = 25 (kgs. 61.67 – Rs.60) = Rs. 41.75 (F)
Material R = 15 (kgs.82.22 – Rs.90) =Rs. 116.70 (A)
= Rs. 47.25 (F) **1**

Note: Revised Standard Quantity (RSQ) is calculated as follows:
Material P = (185/180) ×40 = 41.11 kgs.
Material Q = (185/180) ×60 = 61.67 kgs.
Material R = (185/180) × 80 = 82.22 kgs.

(v) Material Yield Variance
= Standard Cost (Yield Price)per Unit (Actual Yield – Standard Yield)
= Rs. 175 (20 Units– 20.56 Units) = Rs.98 (A)
Note:
(a) Standard Material Cost (Yield Price) per Unit of output
= Rs. 3,500 /20 = Rs. 175
(b) Standard Yield = Actual Usage of Material / Standard Usage per Unit of output

= 185 /9 = 20.56 Units

(b):

Production Overhead Costs Budget:
(For September 2019)

	Capacity level			
Particulars	80%		90%	
Production (Units) '	20,000		22,500	
	Rs.	Per Unit Rs.	Rs.	Per Unit Rs.
Variable Overhead Costs: [A]				
Wages @ Rs. 4	80,000		90,000	
Consumable Stores @ Rs. 3	60,000		67,500	
Maintenance @ Rs. 2	40,000		45,000	
Power and Fuel @ Rs. 2	40,000		45,000	
Total [A]	2,20,000	11.00	2,47,500	11.00
Fixed Overhead Costs: [B]				
Maintenance	25,000		25,000	
Power and Fuel	50,000		50,000	
Depreciation	2,00,000		2,00,000	
Insurance	50,000		50,000	
Total [B]	3,25,000	16.25	3,25,000	14.44
Grand Total [A + B]	5,45,000	27.25	5,72,500	25.44

Working Notes:

(i) Maintenance Costs:
Variable = (Rs. 75,000 – Rs. 55,000) / (25,000 Units – 15,000 Units) = Rs. 2
Fixed = (Rs. 55,000) – (15,000 Units × Rs. 2) = Rs.25,000

(ii) Power and Fuel:
Variable = (Rs. 1,00,000 – Rs. 80,000) / (25,000 Units – 15,000 Units) = Rs.2
Fixed = (Rs. 80,000) – (15,000 Units × Rs. 2) = Rs. 50,000

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

(a) Explain the concept of Opportunity Cost and Imputed Cost with suitable examples.
(b) State the limitations of Cost Accounting System.
(c) Describe the main objectives of Material Control System.
(d) Write a brief note on Principal Budget Factor.

Answer:

8. (a) **Opportunity Cost :**

Opportunity cost is the value of alternatives foregone by adopting a particularstrategy or employingresources in specific manner. It is the return expected from an investment other than the present one. These refer tocosts which result from the use or application of material, labour or other facilities in a particular manner which hasbeen foregone due to not using the facilities in the manner originally planned.Resources (or input) like men,materials, plant and machinery, finance etc., when utilized in one particular way, yield a particular return (or output).If the same input is utilized in another way, yielding the same or a different return, the original return ontheforsaken alternative that is no longer obtainable is the opportunity cost. Forexample, if fixed deposits in the bankare proposed to be withdrawn for financing project, the opportunity cost would be the

loss of interest on thedeposits. Similarly, when a building leased out on rent to a party is got vacated for own purpose or avacant space isnot leased out but used internally, say, for expansion of theproduction programme, the rent so foregone is theopportunity cost.

Imputed Cost:

Imputed cost is hypothetical or notional cost, not involving cash outlay and computedonly for the purpose ofdecision-making. In this respect, imputed cost is similar to opportunity cost. Interest on funds generated internally,payment for which is not actually made is an example of imputed cost. When alternative capital investment projectsare being considered out of which one or more are to be financed from internal funds, it is necessary to take intoaccount the imputed interest on own funds before a decision is arrived at.

(b) Limitations of Cost Accounting System:

(i) Like any other system of accounting, Cost Accountancy is not an exact science but an art which has been developed through theories and accounting practices based on reasoning and commonsense. Many of the theories cannot be proved nor can they be disproved. They grownup in course of time to become conventions and accepted principles of Cost Accounting.

(ii) These principles are by no means static, they are changing from day to day and what is correct today may not hold true in the circumstances tomorrow.

(iii) In cost accounting, no cost can be said to be exact as they incorporate a large number of conventions, estimations and flexible factors such as :-

(iiia) Classification of costs into its elements.

(iiib) Materials issue pricing based on average or standard costs.

(iiic) Apportionment of overhead expenses and their allocation to cost units/centres.

(iiid) Arbitrary allocation of joint costs.

(iiie) Division of overheads into fixed and variable.

(iv) Cost Accounting lacks the uniform procedures and formats in preparing the cost information of a product/ service.

(v) Keeping in view above limitations, all Cost Accounting results can be taken as mere estimates.

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(c) Objectives of Material Control System:

(i) To make continuous availability of materials so that there may be uninterrupted flow of materials for production. Production may not be held up for want of materials.

(ii) To purchase requisite quantity of materials to avoid locking up of working capital and to minimise risk of surplus and obsolete stores.

(iii) To make purchase competitively and wisely at the most economical prices so that there may be reduction in cost of materials.

(iv) To purchase proper quantity of materials to have minimum possible wastage of materials.

(v) To serve as an information centre on the knowledge in respect of materials for prices, sources of supply, lead time, quality and specification.

(d) Principal Budget Factor:

Budgets cover all the functional areas of the organisation. For the effectiveimplementation of the budgetary system, all the functional areas are to beconsidered which are interlinked. Because of these interlinks, certain factors have the ability to affect all other budgets. Such factor is known as principal budget factor.

Principal Budget Factor is the factor the extent of influence of which must first be assessed in order to ensurethat the functional budgets are reasonably capable of fulfillment. A principal budget factor may be lack ofdemand, scarcity of raw material, non-availability of skilled labour, inadequate working capital etc. If forexample, the organisation has the capacity to produce 2,000 units per annum; but the productiondepartment isable to produce only 1,600 units due to non-availability of rawmaterials. In this case, non-availability of rawmaterials is the principal budget factor (limiting factor). If the sales manager estimates that he can sell only1,400 units due to lack of demand, then lack of demand is the principal budget factor. This concept isalsoknown as key factor or governing factor. This factor highlights the constraints within which the organization functions.

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