

**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

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- (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

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- (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

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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

Particulars	Ordering Quantities				
	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.

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

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(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.

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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 then the 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.

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

Particulars	Production 31,000 units		
	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
$\frac{44,12,850 \times 1,000}{31,000}$			1,42,350
Less: Closing Stock =			
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 Cost Books (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.

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(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.

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Subsequent expenses are as follows:

Particulars	Products (Rs.)		
	'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.

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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
Machine Operators 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

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5. (a) Shri Rajesh Agarwal has started transport business with a fleet of 10 taxis. 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 first year of operation.

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- (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, that 1/3 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.

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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 - 11.44) x 10 x 5,400 x 12 = Rs. 10,10,880

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(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. outstanding A/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:

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

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

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- (ii) Sales to earn a target net income of Rs. 60,000 per month:

Contribution per unit = Rs. 20 – Rs. 14 = Rs. 6.

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

(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.

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

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

$$\text{or } 30x = 7,92,00,000 + 20x$$

$$\text{or } 10x = \text{Rs. } 7,92,00,000$$

$$\text{or } x = \text{Rs. } 79,20,000$$

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

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

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

$$\text{Now, S.P. per unit} = V + C = \text{Rs. } 14 + \text{Rs. } 6.60 = \text{Rs. } 20.60.$$

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

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

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

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

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

- (ii) Sales at 75% capacity = Rs. 750 lakhs

$$P = (\text{Sales} \times \text{P/V ratio}) - \text{Fixed Cost}$$

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

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

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

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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.

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- (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

SUGGESTED ANSWERS TO QUESTIONS_SYL2016_DEC2017_PAPER-8

Computation of Revised Standard Time (RST)

Skilled worker	:	$\frac{2,250}{5,400}$	×	5,760	=	2,400 Hours
Semi-skilled worker	:	$\frac{1,350}{5,400}$	×	5,760	=	1,440 Hours
Unskilled worker	:	$\frac{1,800}{5,400}$	×	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			
	X	Y	Z	TOTAL	X	Y	Z	TOTAL
Product →								
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	40,000	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.