

Paper 8- Cost Accounting

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Full Marks: 100

Time allowed: 3 hours

Section-A

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

1. Answer the following questions

(a) Choose the most appropriate alternative for the following (you may write only the Roman numeral and the alphabet chosen for your answer): [1x10=10]

- (i) _____ is a segment of a business that is responsible for all the activities involved in the production and sales of products, systems and services.
(a) **Profit centre**
(b) Cost centre
(c) Responsibility centre
(d) Service cost centre
- (ii) _____ is the value of alternatives foregone by adopting a particular strategy or employing resources in specific manner.
(a) Replacement cost
(b) Imputed cost
(c) **Opportunity cost**
(d) Relevant cost
- (iii) _____ is a quantitative record of receipts, issues and closing balance of items of stores.
(a) Stores records
(b) Stores ledger
(c) **Bin Card**
(d) None of the above
- (iv) The _____ is an analytical method of stock control which aims at concentrating efforts on those items where attention is needed most.
(a) VED Analysis
(b) FSN Analysis
(c) JIT Analysis
(d) **ABC Analysis**
- (v) Idle time is _____
(a) **Time spent by workers off their work**
(b) Time spent by workers in factory
(c) Time spent by workers on their job
(d) Time spent by workers in office
- (vi) _____ are those which vary in total direct proportion to the volume of output. These costs per unit remain relatively constant with changes in production.
(a) Fixed overhead

- (b) **Variable overhead**
- (c) Semi variable overhead
- (d) None of the above

(vii) When the amount of overhead absorbed is less than the amount of overhead incurred, it is called

- (a) **Under-absorption of overhead**
- (b) Over-absorption of overhead
- (c) Proper absorption of overhead
- (d) None of the above

(viii) CAS 13 stands for

- (a) Joint Cost
- (b) Interest and financing charges
- (c) Employee Cost
- (d) **Cost of Service cost centre**

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

- (a) Carriage inward
- (b) Purchase returns
- (c) Sales commission
- (d) **Interest paid**

(x) Cost Price is not fixed in case of

- (a) **Cost plus contracts**
- (b) Escalation clause
- (c) De escalation clause
- (d) All of the above

(b) Match the statement in column I with the most appropriate statement in column II
[5×1=5]

	Column I		Column II
(i)	Indifference point (in units)	A.	Total sales less BEP sales
(ii)	Margin of safety	B.	Difference in Fixed Cost/ Difference in contribution per unit
(iii)	Abnormal loss is transferred to	C.	Treated as direct expenses
(iv)	Primary packing Materials Consumed	D.	CAS 10
(v)	Direct Expenses	E.	Costing Profit and loss account

Answer:

(i)B	(ii)A	(iii)E	(iv)C	(v)D
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(c) State whether the following statements are 'True' or 'False' **[5×1=5]**

- (i)** Closing stock of work-in-progress should be valued on the basis of prime cost.
- (ii)** Cost Accounting Standard Board should have minimum three eminent practicing members of the institute of Cost Accounts of India.

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

- (iii) Cash discounts are generally excluded completely from the costs.
- (iv) Finance cost shall form part of Direct Expense.
- (v) Slow moving materials have a high turnover ratio.

Answer:

(i)False	(ii)False	(iii)True	(iv)False	(v)False
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(d) Fill in the blanks:

[5×1=5]

- (i) Goods Received Note is prepared by the _____.
- (ii) _____ cost are historical costs which are incurred in the past.
- (iii) Wages sheet is prepared by _____ department.
- (iv) Statement of cost per unit of equivalent production shows the per unit cost_____.
- (v) Marginal cost is the _____ of sales over contribution.

Answer:

(i)Receiving department	(ii) Sunk	(iii) Pay Roll Department	(iv) Element Wise	(v) Excess
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Section – B

Answer any five questions from question numbers 2 to 8.

Each question carries 15 marks

2.(a) ABC Ltd. manufactures a special product, which requires 'ZED'. The following particulars were collected for the year 2018-19:

- (i) Monthly demand of Zed : 6,500 units
- (ii) Cost of placing an order : ₹ 500
- (iii) Re-order period : 5 to 8 weeks
- (iv) Cost per unit : ₹ 50
- (v) Carrying cost % p.a. : 10%
- (vi) Normal usage : 500 units per week
- (vii) Minimum usage : 250 units per week
- (viii) Maximum usage : 750 units per week

Required:

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

[8]

(b) In a manufacturing concern XYZ Ltd. the machine shop has 8 identical machines manned by 6 operators. The machines cannot be worked without an operator wholly engages on them. The total cost of the machines is ₹ 12,00,000. Following information relates to a six monthly period ended 31st December, 2018:

• Normal available hours per month	208
• Absenteeism (without pay) hours per month	18
• Leave(with pay)hours per month	20
• Normal idle time(unavoidable) hours per month	10
• Average rate of wages per day of 8 hours	₹ 200

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

• Production bonus	25 % on wages
• Power and fuel consumption	₹ 20,000
• Supervision & indirect labour	₹ 10,000
• Electricity	₹ 6,000
The following particulars are on yearly basis	
• Repairs and maintenance	5% of value of machines
• Insurance	₹ 72,000
• Depreciation	10 % on original cost
• Other factory expenses	₹ 28,000
• Allocated general management expenses	₹ 85,000

You are required to work out a comprehensive machine hour rate for the machine shop. [7]

Answer 2.(a)

(i) Re-order quantity:

$$= \sqrt{\frac{2 \times A \times O}{C}} = \sqrt{\frac{2 \times 6500 \times 12 \times 500}{50 \times 10\%}} = 3,950 \text{ units}$$

(ii) Re-order level = Maximum re-order period × Maximum usage

$$= 8 \text{ weeks} \times 750$$

$$= 6,000 \text{ units}$$

(iii) Minimum stock level = Re-order level – (Normal rate of consumption × Average time of inventory delivery i.e., lead time)

$$= 6000 - (500 \times 6.5)$$

$$= 6000 - 3,250$$

$$= 2,750 \text{ units}$$

(iv) Maximum stock level = Re-order level + Re-order quantity – (Minimum Consumption × Minimum re-order period)

$$= 6,000 + 3,950 - (250 \times 5)$$

$$= 8,700 \text{ units}$$

(v) Average stock level = (Minimum stock level + Maximum stock level) ÷ 2

$$= (2,750 + 8,700) \div 2$$

$$= 5,725 \text{ units}$$

Answer 2.(b)

Calculation of effective machine hours per month:

Normal available hours per month	208
Less: Absenteeism hours	18
Leave	20
Normal idle hours	10
Effective machine hours per month	<u>160</u>

Computation of Machine hour rate for the machine shop:

Wages payable for 6 months	[W.N. 1]	1,71,000
Production bonus	[25% of ₹ 1,71,000]	42,750

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

Power & Fuel consumption		20,000
Supervision & indirect labour		10,000
Electricity		6,000
Repairs & Maintenance	[5% of ₹ 12,00,000 × 6/12]	30,000
Insurance	[₹ 72,000 × 6/12]	36,000
Depreciation	[10% of 12,00,000×6/12]	60,000
Other factory expenses	[₹ 28,000 × 6/12]	14,000
Allocated general management expenses	[₹ 85,000 × 6/12]	42,500
Total overhead of machine shop		4,32,250
Machine hour rate	[₹ 4,32,250 ÷ 5760 hours(W.N 2)]	₹ 75.04

Working Notes:

- Wages = $[(208-18) \times 6 \times ₹ 200 \div 8]$
= $[190 \times 6 \times ₹ 25]$
= ₹ 1,71,000
- Total machine hours for 6 months
For 6 operators = $[\text{effective machine hours} \times 6 \times 6]$
= $[160 \times 6 \times 6]$
= 5760 hours

3 (a) Write a short note on CAS-3

[6]

- (b) The following figures have been extracted from financial accounts of a manufacturing firm for the first year of its operation.

Direct material consumption	50,00,000
Direct wages	30,00,000
Factory OH	16,00,000
Administration OH	7,00,000
Selling and distribution OH	9,60,000
Bad debts	80,000
Preliminary expenses written off	40,000
Legal charges	10,000
Dividends received	1,00,000
Interest on deposit received	20,000
Sales (1,20,000 units)	1,20,00,000
Closing stock	
Finished stock – 4,000 units	3,20,000
Work-in-progress	2,40,000

The cost accounts for the same period reveal that the direct material consumption was ₹56,00,000. Factory OH recovered at 20% on prime cost; Administration OH is recovered @ ₹ 6 per unit of production; Selling and Distribution OH are recovered at ₹ 8 per unit sold. You are required to prepare Costing and Financial Profit and Loss Accounts and reconcile the difference in the profit in the two sets of accounts.

[9]

Answer 3(a)

CAS-3: COST ACCOUNTING STANDARD ON “PRODUCTION AND OPERATION OVERHEADS”

This standard deals with the principles and methods of determining the Production or Operation Overheads. This standard deals with the principles and methods of classification, measurement and assignment of Production or Operation Overheads, for determination of the cost of goods produced or services provided and for the presentation and disclosure in cost statements.

Objectives

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the Production or Operation Overheads with reasonable accuracy.

Scope

This standard shall be applied to cost statements, which require classification, measurement, assignment, presentation and disclosure of Production or Operation Overheads including those requiring attestation.

Disclosures

The cost statements shall disclose the following:

1. The basis of assignment of Production or Operation Overheads to the cost objects.
2. Production or Operation Overheads incurred in foreign exchange.
3. Production or Operation Overheads relating to resources received from or supplied to related parties.
4. Any Subsidy, Grant, Incentive or any amount of similar nature received or receivable reduced from Production or Operation Overheads.
5. Credits or recoveries relating to the Production or Operation Overheads.
6. Any abnormal cost not forming part of the Production or Operation Overheads
7. Any unabsorbed Production or Operation Overheads.

Answer 3(b)

Costing P & L Account			
Dr.		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)
To Materials	56,00,000	By Sales	1,20,00,000
To Direct wages	30,00,000		
To Prime cost	86,00,000		
To Factory OH's (20%)	17,20,000		
	1,03,20,000		
Less: Closing WIP	2,40,000		
Factory Cost	1,00,80,000		
To Admin. OH's (1,24,000×6)	7,44,000		
Cost of production	1,08,24,000		
Less: Closing stock of FG (1,08,24,000×4000/1,24,000)	3,49,161		
Cost of goods sold	1,04,74,839		
To Selling overheads	9,60,000		

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

To Profit	5,65,161		
	1,20,00,000		1,20,00,000

Dr. Financial Trading and P & L Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount(₹)
To Materials A/c	50,00,000	By Dividend A/c	1,00,000
To Wages A/c	30,00,000	By Interest on deposit	20,000
To Factory OH A/c	16,00,000	By Sales A/c	1,20,00,000
To Admin. OH A/c	7,00,000	By Closing stock A/c	
To S & D OH A/c	9,60,000	Finished goods	3,20,000
To Bad debts A/c	80,000	WIP	2,40,000
To Preliminary expenses written Off	40,000		
To Legal charges A/c	10,000		
To Net profit	12,90,000		
	1,26,80,000		1,26,80,000

Statement of Reconciliation		
Particulars	Amount (₹)	Amount (₹)
Profit as per financial Accounts		12,90,000
Add : Over Valuation of Closing stock of Finished goods in cost Accounts	29,161	
Pure financial expenses not considered in Cost Accounts (80,000+40,000+10,000)	1,30,000	1,59,161
Less : Over recovery of material	6,00,000	
Over recovery of FOH	1,20,000	
Over recovery of AOH	44,000	
Financial incomes not considered in Cost Accounts	1,20,000	8,84,000
Profit as per Cost Accounts		5,65,161

4(a). In the current quarter, ABC company has undertaken two jobs. The data relating to these jobs are as under:

	Job 1000	Job 1100
Selling price	₹ 1,07,325	₹ 1,57,920
Profit as percentage on cost	8%	12%
Direct Materials	₹ 37,500	₹ 54,000
Direct wages	₹ 30,000	₹ 42,000

It is the policy of the company to charge Factory overheads as percentage on direct wages and selling and administration overheads as percentage on Factory Cost.

The company has received a new order for manufacturing of a similar job. The estimate of direct materials and direct wages relating to the new order are ₹ 75,000 and ₹ 50,000 respectively. A profit of 20% on sales is required. You are required to compute:

(i) The rates of Factory overheads and selling and Administration overheads to be charged.

(ii) The selling price of the new order.

[8]

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

- 4(b). A product passes through three processes: L, M and N. 10,000 units at a cost of ₹ 1.10 were issued to process L. The other direct Expenses were as follows:

	Process L (₹)	Process M (₹)	Process N (₹)
Sundry materials	1,500	1,500	1,500
Direct Labour	4,500	8,000	6,500
Direct Expenses	1,000	1,000	1,503

The wastage of process L was 5% and in process M 4%. The wastage of process L was sold at ₹ 0.25 per unit and that of M at ₹ 0.50 per unit and that N at ₹ 1.00 per unit. The overhead charges were 160% of direct labour. The final product was sold at ₹ 10 per unit fetching a profit of 20% on sales. Prepare process A/c and also find out percentage of wastage in Process N. [7]

Answer4(a)

Computation of Factory Overhead rates and Selling & Distribution Overhead rates:

Let the Factory overhead rate be X and Selling and Distribution Overheads rates be Y

Job Cost Sheet

Particulars	Job 1000 (₹)	Job 1100 (₹)
Direct Materials	37,500	54,000
Direct wages	30,000	42,000
Prime cost	67,500	96,000
Add: Factory overhead	30,000X	42,000X
Factory Cost	67,500+30,000X	96,000+42,000X
Add: Selling & Administrative expenses	(67,500+30,000X)Y	(96,000+42,000X)Y
Total Cost	(67,500+30,000X)(1+Y)	(96,000+42,000X)(1+Y)
Profit (% on cost)	8%	12%
Total Cost	[1,07,325/108×100] =99,375	[1,57,920/112×100] =1,41,000

$$67,500+30,000X+67,500Y+30,000XY = ₹ 99,375$$

$$\text{Or } 30,000X+67,500Y+30,000XY = ₹ 31,875 \dots\dots\dots (i)$$

$$96,000+42,000X+96,000Y+42,000XY = ₹ 1,41,000$$

$$\text{Or } 42,000X+96,000Y+42,000XY = ₹ 45,000 \dots\dots\dots (ii)$$

Multiplying equation (i) by 4.2 & (ii) by 3 we get,

$$126,000X+2,83,500Y+126,000XY = ₹ 1,33,875 \dots\dots\dots (iii)$$

$$126,000X+2,88,000Y+126,000XY = ₹ 1,35,000 \dots\dots\dots (iv)$$

Solving equation (iii) & (iv), we get

$$4,500Y = 1,125$$

$$Y = 1,125/4500$$

$$Y = 0.25 \text{ i.e., } 25\%$$

Substituting the value of Y in equation (i), we get

$$30,000X+67,500Y+30,000XY = ₹ 31,875$$

$$30,000X + 67,500 \times 0.25 + 30,000 \times X \times 0.25 = ₹ 31,875$$

$$30,000X + 16,875 + 7,500X = ₹ 31,875$$

$$37,500X = 15,000$$

$$X = 0.4 \text{ i.e., } 40\%$$

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

Hence,

Factory Overhead rate on Direct Wages = 40%

Selling & Administration overhead rate on factory cost = 25%

(ii) Computation of selling price of the new order:

Particulars		Amount (₹)
Direct Materials		75,000
Direct Wages		50,000
Prime Cost		1,25,000
Factory Overhead [40% of Direct wages]	[40% of 50,000]	20,000
Factory Cost		1,45,000
Selling & Administration Overhead [25% of Factory cost]	[25% of 1,45,000]	36,250
Total Cost		1,81,250
Add : Profit	[1,81,250/80×20]	45,313
Selling Price		2,26,563

Answer 4(b)

Dr.				Process L A/c				Cr.			
Particulars	units		(₹)	Particulars	units		(₹)				
To Cost of Basic Raw Material	10,000	1.10	11,000	By Normal loss	500	0.25	125				
To Sundry Materials			1,500	By Process M A/c	9,500	2.6395	25,075				
To Direct Labour			4,500								
To Direct Expenses			1,000								
To Overheads(160% × 4,500)			7,200								
	10,000		25,200		10,000		25,200				

Dr.				Process M A/c				Cr.			
Particulars	units		(₹)	Particulars	units		(₹)				
To Process L A/c	9,500	2.6395	25,075	By Normal loss	380	0.50	190				
To Sundry Materials			1,500	By Process N A/c	9,120	5.283	48,185				
To Direct Labour			8,000								
To Direct Expenses			1,000								
To Overheads(160% × 8,000)			12,800								
	9,500		48,375		9,500		48,375				

Dr.				Process N A/c				Cr.			
Particulars	units		(₹)	Particulars	units		(₹)				
To Process M A/c	9,120	5.283	48,185	By Normal loss	X	1.00	X				
To Sundry Materials			1,500	By Finished output A/c	9,120-X	8	68,088				
							- X				

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

To Direct Labour			6,500				
To Direct Expenses			1,503				
To Overheads(160% × 6,500)			10,400				
	9,120		68,088		9,120		68,088

Selling Price per unit ₹ 10

Less: Profit ₹ 2

Cost per unit of F.G ₹ 8

Cost per unit of F.G = $\frac{\text{Total cost} - \text{Scrap Value of Normal loss}}{\text{Total units Input} - \text{units of Normal loss}}$

$$\begin{aligned} \text{₹ 8} &= \frac{68,088 - X}{9,120 - X} \\ X &= 696 \text{ units} \end{aligned}$$

% age of Normal loss in relation to input in Process N
= $\frac{696 \text{ units}}{9120 \text{ units}} \times 100$

$$\begin{aligned} &= \frac{696 \text{ units}}{9120 \text{ units}} \times 100 \\ &= 7.63\% \end{aligned}$$

Dr.				Process N A/c				Cr.			
Particulars	units		(₹)	Particulars	units		(₹)				
To Process M A/c	9,120	5.283	48,185	By Normal loss	696	1.00	696				
To Sundry Materials			1,500	By Finished output A/c	8,424	8	67,392				
To Direct Labour			6,500								
To Direct Expenses			1,503								
To Overheads(160% × 6,500)			10,400								
	9,120		68,088		9,120		68,088				

5(a) Mr. Nikhil started transport business with a fleet of 10 taxis. The various expenses incurred by him are given below:

- (a) Cost of each taxi ₹ 1,20,000
- (b) Salary of office staff ₹ 6,500 p.m.
- (c) Salary of garage staff ₹ 3,500 p.m.
- (d) Rent of garage ₹ 10,000 p.m.
- (e) Driver's salary per taxi ₹ 5,000 p.m.
- (f) Road tax and repairs per taxi ₹ 30,000 p.a.
- (g) Insurance premium @ 5% of cost p.a.

The life of a taxi is 3,00,000 Km. and at the end of which it is estimated to be sold at ₹ 30,000. A taxi runs on an average 5,000 km. per month of which 20% it runs empty. Petrol consumption is 10 Km. per litre of petrol costing ₹ 70 per litre. Oil and other sundry expenses amount to ₹ 50 per 100 Km. Calculate the effective cost of running a taxi per Km. If the hire charge is ₹ 15 per Km, find out the profit Mr. Nikhil may expect to make in the first year of operation.

[8]

5(b) The following details are available from the books of accounts of a contractor with respect to a particular construction work for the year ended 31st March, 2019:

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

	(₹)
Contract price	91,00,000
Cash received from contractee (90% of work certified)	71,91,000
Material sent to site	35,82,600
Planning and estimation cost	3,50,000
Direct wages paid	32,62,700
Cost of plant installed at site	8,00,000
Direct expenses	1,68,000
Establishment expenses	2,50,000
Material returned to store	15,000
Head office expenses apportioned	2,50,000
Cost of work uncertified	3,17,000
On 31 st March, 2019:	
Material at site	85,000
Accrued direct wages	77,300
Accrued direct expenses	12,000
Value of plant(as revalued)	7,16,000

Required:

- (i) Prepare the Contract account for the year ended 31st March, 2019
- (ii) Show the relevant Balance Sheet entries.

[7]

Answer 5(a)

OPERATING COST SHEET

Particulars	Workings	Per month	Per Km (₹)
Fixed costs per taxi:			
1. Salary of Office staff	[6,500 ÷ 10]	650	
2. Salary of garage staff	[3,500 ÷ 10]	350	
3. Garage rent	[10,000 ÷ 10]	1,000	
4. Driver's Salary		5,000	
5. Road tax and repairs	[30,000 ÷ 12]	2,500	
6. Insurance	[(5% on 1,20,000) ÷ 12]	500	
Fixed cost per taxi		10,000	
Fixed cost per effective Km	[10,000 ÷ 4,000(W.N 1)]		2.50
Variable costs:			
1. Depreciation	(1,20,000- 30,000)/2,40,000[W.N 2]		0.375
2. Petrol per month Per effective Km.	(70 × 5,000)/10 = ₹ 35,000 ₹ 35,000 ÷ 4,000 Km		8.75
3. Oil and other sundries per month Per effective Km.	[50 × 5,000/100] = ₹ 2,500 ₹ 2,500 ÷ 4,000 Km		0.625
Operating cost per effective Km.			12.25

Calculation of profit in First Year

Particulars	Amount (₹)
Hire Charges per Km.	15.00
Operating cost effective per Km	12.25
Profit per effective km	2.75

Profit for one year (4,80,000 km[W.N 3] @ 2.75 per km) = ₹ 13,20,000

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

Working Notes:

1. Effective Km. per month = 5,000 – 20% = 4,000 km
2. Effective Km of life of a taxi = [3,00,000 – 20% of 3,00,000] = 2,40,000 km
3. Effective km for first year of operation for all the 10 taxis = 4,000 × 12 × 10 = 4,80,000 km

Answer 5(b)

Contract Account for the year ended 31st March, 2019

Dr.			Cr.		
Particulars		(₹)	Particulars		(₹)
To Material sent to site		35,82,600	By Materials returned		15,000
To Direct wages: Paid	32,62,700		By Materials at site		85,000
Accrued	77,300	33,40,000	By Work-in-progress :		
To Planning and estimation cost		3,50,000	Cost of work uncertified		3,17,000
To Direct expenses:			Value of work certified		
Paid	1,68,000		[71,91,000 × 100/90]		79,90,000
Accrued	12,000	1,80,000			
To Depreciation on plant [8,00,000 – 7,16,000]		84,000			
To Establishment expenses		2,50,000			
To Head office Expenses		2,50,000			
To Notional Profit C/d		3,70,400			
		84,07,000			84,07,000
To P & L A/c		2,22,240	By Notional Profit B/d		3,70,400
To Reserve		1,48,160			
		3,70,400			3,70,400

Workings :

$$\begin{aligned}
 \% \text{ of Completion} &= \frac{\text{Work Certified}}{\text{Contract Price}} \times 100 \\
 &= \frac{79,90,000}{91,00,000} \times 100 = 87.80\%
 \end{aligned}$$

Since the completion of contract is greater than 50% but not greater than 90%, 2/3 rd of the Notional Profit in the ratio of Cash received to work certified will be transferred to profit & Loss A/c.

Profit transferred to P & L A/c

$$= \frac{2}{3} \times \text{profit} \times \frac{\text{Cash Received}}{\text{Work certified}}$$

$$= \frac{2}{3} \times 3,70,400 \times \frac{71,91,000}{79,90,000} = ₹ 2,22,240$$

Extract of Balance sheet as on 31st March, 2019

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
P & L A/c		2,22,240	Work-in-progress:		
Accrued Wages		77,300	Value of work certified	79,90,000	
Accrued Expenses		12,000	Cost of work uncertified	3,17,000	
				83,07,000	
			Reserved profit	(1,48,160)	
				81,58,840	

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

		Cash received	(71,91,000)	9,67,840
		Material at site		85,000

6.(a) A company budgets for a production of 2,00,000 units. The variable cost per unit is ₹ 13 and fixed cost is ₹ 2 per unit. The company fixes its selling price to fetch a profit of 20% on cost.

- What is the Break-Even Point?
- What is Profit-Volume Ratio?
- If it reduces its selling price by 5%, how does the revised selling price affect the break-even point and the profit-Volume ratio?
- If a profit increase of 10% is desired more than the budget, what should be the sale at the reduced prices?

[8]

(b) A factory engaged in manufacturing plastic buckets is working at 40% capacity and produces 10,000 buckets per month. The present cost breakup for one bucket is as under:

Materials	₹ 25
Labour	₹ 8
Overheads	₹ 10(50% fixed)

The selling price is ₹ 50 per bucket. If it is decided to work the factory at 50% capacity, the selling price falls by 3%. At 80% capacity, the selling price falls by 5% accompanied by a similar fall in the price of materials.

You are required to prepare a statement showing the profits at 50% and 80% capacities and also determine the break even points at each of these production levels.

[7]

Answer 6(a)

Budgeted production (in units)	2,00,000
Variable cost (per unit)	₹ 13.00
Fixed cost(per unit)	₹ 2.00
Selling price (W.N.1)	₹ 18.00
Contribution(per unit)	₹ 5.00
Total fixed cost (2,00,000 units × ₹ 2)	₹ 4,00,000

$$\begin{aligned}
 \text{a) Break-even point} &= \frac{\text{Total fixed cost}}{\text{Contribution p.u}} \\
 &= \frac{4,00,000}{5.00} \\
 &= 80,000 \text{ units}
 \end{aligned}$$

$$\begin{aligned}
 \text{b) Profit-volume ratio} &= \frac{\text{Contribution p.u}}{\text{Selling price p.u}} \times 100 \\
 &= \frac{5.00}{18.00} \times 100 \\
 &= 27.78\%
 \end{aligned}$$

c) (i) Break-Even point under revised selling price (see W.N.2)

$$\begin{aligned}
 &= \frac{\text{Total fixed cost}}{\text{Contribution p.u}} \\
 &= \frac{4,00,000}{4.10}
 \end{aligned}$$

$$= 97,560.97 \text{ units or } 97,561 \text{ units}$$

(ii) Profit-Volume Ratio under revised selling price

$$= \frac{\text{Revised contribution p.u.}}{\text{Revised selling price}} \times 100$$

$$= \frac{4.10}{17.10} \times 100 = 23.98\% \text{ or } 24\%$$

d) No. of units to be sold under desired profit:

$$= \frac{\text{Total Fixed Cost} + \text{Desired Profit}}{\text{Contribution p.u.}}$$

$$= \frac{4,00,000 + 6,60,000}{4.10}$$

$$= 2,58,537 \text{ units}$$

Working Notes:

1. Total cost of producing a unit = ₹ 15.00
 Add: 20% of profit on ₹ 15 = 3.00
 Selling price per unit = ₹ 18.00
2. Revised selling price = (Original Selling price less by 5%)
 = (₹ 18.00 - ₹ 0.90)
 = ₹ 17.10

 Contribution per unit
 Under revised selling price = (₹ 17.10 - ₹ 13.00)
 = ₹ 4.10
3. Desired profit :
 Budgeted Profit = ₹ 6,00,000
 (2,00,000 × 3)
 10% increase in profit = ₹ 60,000
 Desired profit = ₹ 6,60,000

Answer 6(b)

Statement showing the profit at various capacity levels

Particulars	40%	50%	80%
Production & sales(units)	10,000	12,500	20,000
Selling price (₹)	50.00	48.50	47.50
Sales [a]	5,00,000	6,06,250	9,50,000
Variable cost:			
Materials @ ₹ 25	2,50,000	3,12,500	5,00,000
Labour @ ₹ 8	80,000	1,00,000	1,60,000
Variable overheads @ ₹ 5 [₹ 10 × 50/100]	50,000	62,500	1,00,000
Total [b]	3,80,000	4,75,000	7,60,000
Contribution [a-b]	1,20,000	1,31,250	1,90,000
Less : Fixed overheads @ ₹ 5 [₹ 10 × 50/100]	50,000	50,000	50,000
Profit	70,000	81,250	1,40,000
Contribution per unit	$= \frac{1,20,000}{10,000}$ =12.00	$= \frac{1,31,250}{12,500}$ =10.50	$= \frac{1,90,000}{20,000}$ =9.50
Break-even point [Fixed OH/Contribution p.u.]	4,167	4,762	5,263

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

- 7.(a) The Standard labour complement and the actual labour complement engaged in a week for a job are as under:

	Skilled workers	Semi skilled workers	Unskilled workers
a) Standard no. of workers in the gang	32	12	6
b) Standard wage rate per hour (₹)	3	2	1
c) Actual no. of workers employed in the gang during the week	28	18	4
d) Actual wage rate per hour (₹)	4	3	2

During the 40 hour working week the gang produced 1,800 standard labour hours of work. Calculate

- | | |
|-------------------------------|-------------------------|
| 1) Labour Efficiency Variance | 2) Mix Variance |
| 3) Rate of Wages Variance | 4) Labour Cost Variance |
- [8]**

- (b) Prepare Sales Overhead Budget for the month of January, February and March for the estimates given below:

Advertisement	(₹) 3,000
Salaries of the Sales Department	4,000
Expenses of the Sales Department	2,000
Counter Salesmen's Salaries and Dearness Allowance	6,000

Counter Salesmen's commission is 2% on their sales.

Travelling Salesmen's commission at 10% on their sales and expenses at 5% on their sales.

The sales during the period were estimated as follows:

Month	Counter Sales (₹)	Travelling Salesmen's Sales (₹)
January	1,00,000	20,000
February	1,50,000	30,000
March	1,75,000	40,000

[7]

Answer 7(a)

Analysis of Given Data

				Amount (₹)			
Standard Data				Actual Data			
	Hours	Rate	Value (₹)		Hours	Rate	Value (₹)
Skilled	32×40=1,280	3	3,840	Skilled	28×40=1,120	4	4,480
Semi-skilled	12×40= 480	2	960	Semi-skilled	18×40= 720	3	2,160
Unskilled	6×40= 240	1	240	Unskilled	4×40= 160	2	320
	2,000		5,040		2000		6,960

Computation of Required Values

	Amount (₹)			
	SRSH(1)	SRRSH(2)	SRAH(3)	ARAH(4)
Men	3×1,152=3,456	3,840	3×1,120=3,360	4,480
Women	2×432 = 864	960	2×720=1,440	2,160
Boys	1×216 = 216	240	1×160= 160	320
	4,536	5,040	4,960	6,960

Computation of SH

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 2

$$SH = \left(\frac{\text{SH for that worker}}{\text{SH for all the worker}} \right) \times AQ \text{ for that worker}$$

$$\text{For Skilled Worker} = \left(\frac{1,280}{2,000} \right) \times 1,800 = 1,152$$

$$\text{For Semiskilled worker} = \left(\frac{480}{2,000} \right) \times 1,800 = 432$$

$$\text{For Unskilled worker} = \left(\frac{240}{2,000} \right) \times 1,800 = 216$$

Where (1) SRSRSH = Standard Cost of Standard Labour = ₹ 4,536

(2) SRRSH = Revised Standard Cost of Labour = ₹ 5,040

(3) SRAH = Standard Cost of Actual Labour = ₹ 4,960

(4) ARAH = Actual Cost of Labour = ₹ 6,960

Computation of Labour Variances:

- a. Labour Sub-Efficiency Variance = (1) – (2) = ₹ 504 (A) [₹(4,536 – 5,040)]
- b. Labour Mix or Gang Variance = (2) – (3) = ₹ 80 (F) [₹(5,040 – 4,960)]
- c. Labour Efficiency Variance = (1) – (3) = ₹ 424 (A) [₹(4,536 – 4,960)]
- d. Labour Rate Variance = (3) – (4) = ₹ 2,000 (A) [₹(4,960 – 6,960)]
- e. Labour Cost Variance = (1) – (4) = ₹ 2,424 (A) [₹(4,536 – 6,960)]

Answer 7(b)

Sales Overhead Budget (For the month of January, February and March)

Particulars	January	February	March
Variable Overheads:			
Commission to counter salesmen @ 2% on their sales	2,000	3,000	3,500
Travelling salesmen's commission @ 10% on their sales	2,000	3,000	4,000
Travelling salesmen's expenses @ 5% on their sales	1,000	1,500	2,000
Total variable overheads [A]	5,000	7,500	9,500
Fixed Overheads			
Advertisement	3,000	3,000	3,000
Salaries of Sales department	4,000	4,000	4,000
Expenses of Sales Department	2,000	2,000	2,000
Salaries to the counter salesmen	6,000	6,000	6,000
Total Fixed Overhead [B]	15,000	15,000	15,000
Total Sales overhead [A]+[B]	20,000	22,500	24,500

8. Short Note (any three)

[3×5=15]

- (a) List the differences between Cost Control and Cost Reduction
- (b) How would you classify costs based on behavior? Give an example to explain each class.
- (c) What is Just-In-Time (JIT) system? List out its main benefits.
- (d) What are the factors to be considered in Production Budget?

Answer 8.(a)

Both Cost Control and Cost Reduction are efficient tools of management but their concepts and procedure are widely different. The differences are summarized below:

Cost Control	Cost Reduction
<ul style="list-style-type: none">• Cost Control represents efforts made towards achieving target or goal.	<ul style="list-style-type: none">• Cost Reduction represents the achievement in reduction of cost.
<ul style="list-style-type: none">• The process of Cost Control is to set up a target, ascertain the actual performance and compare it with the target, investigate the variances, and take remedial measures.	<ul style="list-style-type: none">• Cost Reduction is not concern with maintenance of performance according to standard.
<ul style="list-style-type: none">• Cost Control assumes the existence of standards or norms which are not challenged.	<ul style="list-style-type: none">• 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.
<ul style="list-style-type: none">• Cost Control is a preventive function. Costs are optimized before they are incurred.	<ul style="list-style-type: none">• 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.
<ul style="list-style-type: none">• Cost Control lacks dynamic approach.	<ul style="list-style-type: none">• 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) Classification based on Behaviour – Fixed, Semi-variable or Variable

Costs are classified based on behaviour as fixed cost, variable cost and semi-variable cost depending upon response to the changes in the activity levels.

Fixed Cost:

Fixed cost is the cost which does not vary with the change in the volume of activity in the short run. These costs are not affected by temporary fluctuation in activity of an enterprise. These are also known as period costs. Example: Rent, Depreciation...etc.

Variable Cost:

Variable cost is the cost of elements which tends to directly vary with the volume of activity. Variable cost has two parts (i) Variable direct cost (ii) Variable indirect costs. Variable indirect costs are termed as variable overheads. Example: Direct labour, Outward Freight...etc.

Semi-Variable Costs:

Semi variable costs contain both fixed and variable elements. They are partly affected by fluctuation in the level of activity. These are partly fixed and partly variable costs and vice versa. Example: Factory supervision, Maintenance...etc.

(c) Just-in-Time:

Just in time (JIT) is a production strategy that strives to improve a business return on investment by reducing in-process inventory and associated carrying costs. Inventory is seen as incurring costs, or waste, instead of adding and storing value, contrary to

traditional accounting. In short, the Just-in-Time inventory system focuses on "the right material, at the right time, at the right place, and in the exact amount" without the safety net of inventory.

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

- (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.

(d) Factors to be considered in Production Budget:

Next to the sales budget, the main function of a business concern is the production and for this, a budget is prepared simultaneously with the sales budget. It is the forecast of production during the period for which the budget is prepared. It can also be prepared in two parts viz., production volume budget for the physical units i.e., the number of units, the tonnes of production etc., and the cost of production or manufacture showing details of all elements of the manufacture. While preparing the production budget, the following factors must be taken into consideration:-

- (a) Production plan:-
Production planning is an important part of the preparation of the production budget. Optimum utilization of plant capacity is taken by eliminating or reducing the limiting factors and thereby effective production planning is made.
- (b) The capacity of the business concern:-
It is to be ensured that the capacity of the organization will coincide the budgeted production or not. For this purpose, plant utilization budget will also be necessary. The production budget must be based on normal capacity likely to be achieved and it should not be too high or too low.
- (c) Inventory Policy:-
While preparing the production budget it is also necessary to see to what extent materials are available for producing the budgeted production. For that purpose, a purchase budget or a purchase plan must also be studied. Similarly, on the other hand, it is also necessary to verify the extent to which the inventory of finished goods is to be carried.
- (d) Sales budgets must also be considered before preparing production budget because it may so happen that the entire production of the concern may not be sold. In such a case the production budget must be in line with the sales budget.
- (e) A plan of the sequence of operations of production for effective preparation of a production budget should always be there.
- (f) Last, but not the least, the policy of the management should also be considered before preparing the production budget.