

Part I : Case Scenario Based MCQs (30 Marks)

Ans. to Q.1

(i) Option (b) (ii) Option (a) (iii) Option (b) (iv) Option (c) (v) Option (a)

Contribution p.u. = Selling Price p.u. – Variable Cost p.u.

$$= ₹300 - ₹180 = ₹120$$

$$P/v \text{ Ratio} = \frac{\text{Contribution}}{\text{Sale}} \times 100 = \frac{120}{300} \times 100 = 40\%$$

$$(i) \text{ BEP (in value)} = \frac{\text{Fixed Cost}}{\text{P/v Ratio}} = \frac{₹ 16,80,000}{40\%} = ₹42,00,000$$

$$\text{BEP (in Units)} = \frac{\text{Fixed Cost}}{\text{Contribution p.u.}} = \frac{₹ 16,80,000}{₹ 20 \text{ p.u.}} = 14,000 \text{ Units}$$

$$(ii) \text{ Margin of safety (in value)} = \frac{\text{Profit}}{\text{P/v Ratio}} = \frac{₹ 7,20,000}{40\%} = ₹18,00,000$$

$$(iii) \text{ Profit when 24,000 units are sold} = \text{Contribution} - \text{Fixed Cost}$$

$$= (24,000 \text{ Units}) (₹120 \text{ p.u.}) - ₹16,80,000$$

$$= ₹12,00,000.$$

(iv) Desired sales for profit of ₹10,00,000.

$$= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{P/v Ratio}} = \frac{16,80,000 + 10,00,000}{40\%} = ₹67,00,000$$

Ans. to Q.2

(i) Option (d) (ii) Option (b) (iii) Option (b) (iv) Option (d) (v) Option (a)

Cost sheet

Particulars	Amount (₹)
Direct Materials:-	
Opening Stock of Raw Material	10,000
(+) Purchase of Raw Material	80,000
(+) Carriage inwards	3,000
(+) Transit Insurance	2,000
(-) Closing Stock of Raw Material	(12,000)
(-) Sale Value of Scrap of Raw Material	(2,000)
Raw Material Consumed	81,000
(+) Direct Labour Cost	70,000
(+) Direct Expenses	8,000
Prime Cost/Direct Cost	1,59,000
(+) Factory (Works) Overheads:-	
1) Indirect Labour	30,000
2) Electricity Bill of Factory	18,000
3) Indirect Factory Materials	45,000
4) Factory Insurance	7,000
5) Deprecation on Machinery	24,000
6) Rent of Factory	22,000
Gross Factory (Works) Cost	1,46,000
(+ Opening stock of WIP	15,000
(-) Closing stock of WIP	(20,000)

Particulars	Amount(₹)
Factory (Works) Cost	3,00,000
(+) 1) Quality Control Cost	5,000
2) Prime Packing Cost	Nil
3) Research and Development Cost	2,000
4) Production-related Administration Overheads	15,000
(-) Sales Value of factory scrap	(3,000)
<u>Cost of Production</u> of Quantity Produced (Cost of Production)	3,19,000
(+) Opening stock of Finished Goods	40,000
<u>Cost of Production</u> of Goods Available	3,59,000
(-) Closing stock of finished goods	(35,000)
<u>Cost of Production</u> of Quantity sold (COGS)	3,24,000
(+) 1. Office & Administration Overheads (General)	
Printing & Stationery	5,000
Managing Director remuneration	21,000
Office Rent	14,000
Electricity Bill of Office	8,000
	<u>48,000</u>
2. Selling and Distribution Overheads	
Electricity Bill of show-room	6,000
Rent of show-room	9,000
Sales Commission[5% of 6,50,000]	32,500
	<u>47,500</u>
Cost of Sales	4,19,500
Profit (Balance)	<u>2,30,500</u>
Sales (excluding GST)	6,50,000
+ GST	<u>50,000</u>
Final Sales Value (Including GST)	7,00,000

Ans. to Q.3

Option (b)

Ans. to Q.4

Option (b)

Ans. to Q.5

Option (a)

Ans. to Q.6

Annual usage (U) = 16,000 units, Cost per order (P) = ₹ 120

Carrying cost per unit p.a. (S) = ₹ 60 × 10/100 = ₹ 6

$$EOQ = \sqrt{\frac{2UP}{S}} = \sqrt{\frac{2 \times 16,000 \times 120}{6}} = 800 \text{ units. Hence, correct answer is option (3), i.e., 800 units.}$$

Ans. to Q.7

Option (a)

Ans. to Q.8 (A)

Trading and Profit and Loss Account for the year ended on March 31, 2018

Particulars	Amount (₹)	Particulars	Amount (₹)
To Direct materials	3,55,000	By Sales (1,80,000 units)	16,20,000
To Direct wages	3,60,000	By Closing stock of finished goods (3,000 units)	1,50,000
To Manufacturing expenses	2,45,000	By Interest received	25,000
To Office and administration expenses	2,40,000		
To Selling and distribution overheads	2,00,000		
To Donation and charity	20,000		
To Interest on debentures	48,000		
To Preliminary expenses written off	20,000		
To Provision for tax	75,000		
To Net profit	2,32,000		
	17,95,000		17,95,000

Particulars	Amount (₹)
Direct materials	3,55,000
Direct wages	3,60,000
Prime cost	7,15,000
Add: Manufacturing overheads (80% of direct wages)	2,88,000
Factory cost	10,03,000
Add: Production related administration overheads (25% of factory cost)	2,50,750
Cost of production (2,10,000 units)	12,53,750
Less: Closing stock of finished goods (₹ 12,53,750/2,10,000 units × 30,000 units)	(1,79,107)
Cost of goods sold (1,80,000 units)	10,74,643
Add: Selling overheads (₹ 1 per unit)	1,80,000
Cost of sales	12,54,643
Profit (Bal. figure)	3,65,357
Sales (1,80,000 units)	16,20,000

Reconciliation Statement

Particulars	+	-
Profit as per cost books	3,65,357	
Manufacturing overheads over-recovered in cost books (2,88,000 - 2,45,000)	43,000	
Office and administration overheads over-recovered in cost books	10,750	
Closing stock over-valued in cost books		29,107
Selling overheads under-recovered in cost books		20,000
Interest received recorded in financial books	25,000	
Donation and charity, Interest on debentures, Preliminary expenses written off and Provision for tax recorded in financial books		1,63,000
	4,44,107	2,12,107

Profit as per financial books = 4,44,107 - 2,12,107 = ₹ 2,32,000

Ans. to Q.8 (B)

Assume, Present cost = ₹ x and Present profit = ₹ y

Hence, $x + y = ₹ 3,000$ - (Equation 1)

Type of cost	Present cost	Future cost
Material	0.5 x	0.5 x plus 20% = 0.6 x
Labour	0.3 x	0.3 x plus 10% = 0.33 x
Overheads	0.2 x	0.2 x plus 10% = 0.22 x
Total	₹ x	1.15 x

We are given that the increased cost in future, in relation to existing selling price, will decrease the profit by 30%.

Therefore, following equation can be formed:-

$$1.15x + 0.7y = ₹ 3,000 \Rightarrow 1.15x + 0.7(3,000 - x) = 3,000 \text{ [from equation (1)]}$$

Solving, we get $x = 2,000$ and $y = 1,000$. Hence, present cost is ₹ 2,000 and present profit is ₹ 1,000.

We are observing that profit is 1/3 of sales or 1/2 of cost. If this proportion of profit is also desired in the future, the future selling price is compute below:-

Future cost (1.15 $x = 1.15 \times 2,000$)	₹ 2,300
Profit (1/3 of sales = 1/2 of cost)	₹ 1,150
Future sales	₹ 3,450

Ans. to Q.9 (A)

Stores Ledger Control Account

To balance b/d	54,000	By WIP Ledger Control Account	2,88,000
To General Ledger Adjustment A/c	2,88,000	By Production Overheads Control A/c	36,000
To WIP Ledger Control Account	1,44,000	By Production Overheads Control A/c	10,800
		By balance c/d	1,51,200
	4,86,000		4,86,000

The deficiency in the stock is assumed to be normal and transferred to Production Overheads Control Account.

Alternatively, the deficiency may be assumed to be abnormal and transferred to Costing Profit & Loss Account.

WIP Ledger Control Account

To balance b/d	1,08,000	By Stores Ledger Control Account	1,44,000
To Stores Ledger Control Account (Direct Material)	2,88,000	(Material Returned)	
To Wages Control Account (Direct Wages)	1,08,000	By Finished Goods Ledger Control A/c (Bal.fig.)	7,20,000
To Production Overheads Control A/c	4,32,000	By Balance c/d	72,000
	9,36,000		9,36,000

Wages Control Account

To General Ledger Adjustment A/c (Total Wages)	1,26,000	By WIP Ledger Control A/c (Direct Wages)	1,08,000
		By Production Overheads Control A/c (Indirect Wages)	18,000
	1,26,000		1,26,000

Production Overheads Control Account

To Stores Ledger Control Account	36,000	By WIP Ledger Control Account (Recovered)	4,32,000
To Stores Ledger Control Account (Normal Stock Deficiency)	10,800	By Costing Profit & Loss Account (Under-recovery)	82,800
To Wages Control Account (Indirect Wages)	18,000		
To General Ledger Adjustment A/c	4,50,000		
	5,14,800		5,14,800

Finished Goods Ledger Control Account

To WIP Ledger Control Account	7,20,000	By Cost of Sales Account	7,20,000
	7,20,000		7,20,000

Cost of Sales Account

To Finished Goods Ledger Control A/c	7,20,000	By Costing Profit & Loss Account	7,20,000
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Costing Profit & Loss Account

To Cost of Sales Account	7,20,000	By General Ledger Adjustment A/c	8,28,000
To Production Overheads Control A/c (Under-recovery)	82,800	(7,20,000 plus 15%)	
To General Ledger Adjustment A/c (Profit)	25,200		
	8,28,000		8,28,000

Ans. to Q.9 (b)

Benefits of Study of Marginal Costing

- Marginal costing is very effective in cost control. It is necessary to segregate various expenses in to fixed and variable parts. Such behaviour of cost is also compared with past data. As such, the management is able to control if there is variance as compared to past period or standard cost.
- It is helpful in taking the decision regarding price fixation. Normally the price is to be fixed above total cost for earning some profit. But, under certain circumstances, price can be fixed at below total cost but above variable cost because fixed cost becomes irrelevant in the decision - making process.
- It is helpful in deciding the most suitable sales mix for obtaining the maximum profit. If the situation of key factor or limiting factor is prevailing, the product which yields highest contribution per unit of key factor is considered most profitable.
- In case of "Make or Buy decisions", the decision is to be taken by comparing the supplier's price with the variable manufacturing cost. Here, fixed cost is to be ignored. The study of Marginal Costing is helpful in taking such decisions.
- If new product has been developed & management is faced with the problem of deciding whether to employ machine or labour oriented activities, the management should select such method which yields maximum contribution.

Production Budget (in Units)

Particulars	Product A	Product B
Budgeted Sales (4 × 5 = 20 working days)	2,400	3,600
(+) Closing Stock of finished goods	2,400 × 4/20 = 480	3,600 × 5/20 = 900
(-) Opening Stock of finished goods	(400)	(200)
Budgeted Production	2,480	4,300

Raw Material Purchase Budget

Particulars	Material X	Material Y
Budgeted Consumption		
Product A	2,480 × 5 = 12,400 kgs.	2,480 × 4 = 9,920 kgs.
Product B	4,300 × 3 = 12,900 kgs.	4,300 × 6 = 25,800 kgs.
	25,300 kgs.	35,720 kgs.
(+) Closing Stock of Raw Material	25,300 × 10/20 = 12,650 kgs.	35,720 × 6/10 = 10,716 kgs.
(-) Opening Stock of Raw Material	(-) 1,000 kgs.	(-) 500 kgs.
Budgeted Purchase	36,950 kgs.	45,936 kgs.
Rate per kg.	₹ 4	₹ 6
Total Purchase cost	₹ 1,47,800	₹ 2,75,616

Labour Cost Budget

	Total hours	Rate/hr.	Total Wages
Normal Time	28,800	₹ 25	₹ 7,20,000
Over Time	14,610	₹ 37.50	₹ 5,47,875
	43,410		₹ 12,67,875

Normal Time = 180 workers × 4 weeks × 40 hrs. /week = 28,800 hrs.

Efficiency Ratio = 80%

$$\frac{\text{Standard hrs. for Output Obtained}}{\text{Actual Hours Worked}} \times 100 = 80$$

Actual hours worked = Standard hrs. for Output Obtained × 100/80

$$= \left[\begin{array}{l} \text{A} \rightarrow 2,480 \text{ Units @ 3 hrs. p.u.} \\ \text{B} \rightarrow 4,300 \text{ Units @ 5 hrs. p.u.} \end{array} \right] \times \frac{100}{80} = 36,175 \text{ hrs.}$$

Actual Hrs. Paid = Actual hrs. Worked + Idle Time = 36,175 hrs. + 20% of 36,175 hrs. = 43,410 hrs

Ans. to Q.10 (b)

Total Machine Hours = 40 hrs/week × 4 weeks = 160 hrs.

Computation of Machine Hour Rate

Particulars	Total	Per Machine Hr.
Standing Charges		
1) Rent (₹ 400 × 25/100)	100	
2) Lighting (₹ 160 × 8/32 × 1/2)	20	
3) Indirect Labour (₹ 100 × 1/2)	50	
4) Salary to Foreman (₹ 200 × 1/2)	100	
5) Salary to Attendant (₹ 100 × 1/2)	50	
Total Standing Charges	320	320/160 = ₹ 2
Machine Running Expenses		
1) Repairs and Renewals	40	0.25
2) Power	160	1.00
3) Depreciation $\left(\frac{11,500 - 1,500}{20,000 \text{ hrs.}} \times 160 \text{ hrs.} \right)$	80	0.50
Machine Hour Rate		3.75

Process I Account

Particulars	Units	Amount	Particulars	Units	Amount
To Units Issued (@ ₹ 65 p.u.)	6,500	4,22,500	By Normal Loss (@ ₹ 4)	250	1,000
To Direct Wages		1,40,000	By Abnormal Loss (@ ₹ 100 p.u.)	250	25,000
To Direct Expenses (30% of Direct Wages)		42,000	By Process II A/c (@ ₹ 100 p.u.)	6,000	6,00,000
To Manufacturing Overheads		21,500			
	6,500	6,26,000		6,500	6,26,000

Cost per unit of normal output

$$= \frac{4,22,500 + 1,40,000 + 42,000 + 21,500 - 1,000}{6,500 \text{ units} - 250 \text{ units}} = ₹ 100 \text{ p.u.}$$

Process II Account

Particulars	Units	Amount	Particulars	Units	Amount
To Process I A/c	6,000	6,00,000	By Normal Loss (@ ₹ 16 p.u.)	500	8,000
To Direct Wages		1,30,000	By Finished Goods Stock A/c	5,500	7,92,000
To Direct Expenses (35% of Direct Wages)		45,500			
To Manufacturing Overheads		24,500			
	6,000	8,00,000		6,000	8,00,000

Finished Goods Stock Account

Particulars	Units	Amount	Particulars	Units	Amount
To Process II A/c (@ ₹ 144 p.u.)	5,500	7,92,000	By Costing P/L A/c (@ ₹ 144 p.u.)	5,000	7,20,000
			By balance c/d (@ 144 p.u.)	500	72,000
	5,500	7,92,000		5,500	7,92,000

Ans. to Q.11 (B)

Product	Quantity	joint cost
X	100 litres	₹ 4,000
Y	70 litres	₹ 2,800
Z	80 litres	₹ 3,200
	250 Litres	₹ 10,000

(i) Statement showing profit or loss if the joint products are sold after further processing and joint cost is apportioned on physical units:-

Product	Joint cost	Separate cost	Total cost	Final sales value	Profit (loss)
X	₹ 4,000	₹ 2,000	₹ 6,000	₹ 5,000	(1,000)
Y	₹ 2,800	₹ 1,200	₹ 4,000	₹ 5,600	1,600
Z	₹ 3,200	₹ 800	₹ 4,000	₹ 4,800	800
					1,400

(ii) If it is decided to sell the product at split-off stage, the amount of profit or loss would have been:-

Profit = Sales at split-off stage – share in joint cost

$$X = (100 \text{ litres @ ₹ 25}) - 4,000 = (-) 1,500$$

$$Y = (70 \text{ litres @ ₹ 70}) - 2,800 = 2,100$$

$$Z = (80 \text{ litres @ ₹ 45}) - 3,200 = 400$$

$$\underline{1,000}$$

It is advised that only product Y is not to be further processed whereas product X and Z are to be further processed and sold. In such a case, total profit would have been :-

$$\text{Product X} \longrightarrow (-) 1,000$$

$$\text{Product Y} \longrightarrow 2,100$$

$$\text{Product Z} \longrightarrow 800$$

$$\underline{₹ 1,900}$$

Ans. to Q.12 (A)

No. of Passengers = $32 \times 70\% = 22.4$

No. of Kms p.a. = $10 \text{ trips} \times 2 \text{ ways} \times 30 \text{ kms} \times 25 \text{ days} \times 12 \text{ months} = 1,80,000$

So, Total Number of Passenger-Kms p.a. = $22.4 \times 1,80,000 = 40,32,000$

Statement of Operating Costs and Revenues per annum

Particulars	Total(₹)	Per Passenger-Kms (₹)
Standing Charges		
Insurance	15,600	
Garage Rent (₹ 2,400 per quarter × 4 quarters)	9,600	
Road Tax	5,000	
Repairs Fixed (₹ 4,800 per quarter × 4 quarters)	19,200	
Salary (₹ 7,200 per month × 12 months)	86,400	
Tyres & Tubes (₹ 3,600 per quarter × 4 quarters)	14,400	
Depreciation	68,000	2,18,200/40,32,000
	2,18,200	= 0.0541
Running expenses		
Diesel (1,80,000 kms/5 kms×₹ 13 per litre)	4,68,000	0.1161
Oil and sundries (1,80,000 kms/100 kms×₹ 22 per litre)	39,600	0.0098
Total cost	7,25,800	0.18
Profit (25% of total takings)	3,42,358	0.0849
Passenger tax (22% of total takings)	3,01,275	0.0747
Total takings	13,69,433	0.34 (approx.)

Computation of total takings

Let total takings = ₹ x

We know that, Total cost + profit + passenger tax = Total taking

$$7,25,800 = ₹ x - 0.25x - 0.22x$$

On Solving,

$$\text{We get } x = \frac{7,25,800}{0.53} = ₹ 13,69,433.$$

Hence, One-Way Fare per Passenger = $30 \text{ km} \times ₹ 0.34 = ₹ 10.20$

Ans. to Q.12 (B)

Time Taken = 8 hours

Time Allowed → 1 unit = 20 minutes

$$\rightarrow 30 \text{ units} = \frac{30 \times 20}{60} = 10 \text{ hours}$$

Time saved = $10 - 8 = 2 \text{ hours}$

Time Wages (8 hrs. × ₹ 20/hr.)

₹ 160

$$\text{Bonus} = \left[\frac{\text{Time Taken}}{\text{Time Allowed}} \times \text{Time Saved} \times \text{Wage Rate} \right] = \frac{8 \text{ hrs.}}{10 \text{ hrs.}} \times 2 \text{ hrs.} \times ₹ 20 / \text{hr.}$$

₹ 32

₹192

Ans. to Q.13 (A)

Time and Motion Study

- 1. Meaning of Time Study:** It is a technique which is used to measure the time that may be taken by workman with reasonable skill and ability to perform the requirements of a job. This study is conducted with the help of stopwatch.
- 2. Purpose of Time Study:-**
 - (a) To ascertain the time normally required to perform a certain job.
 - (b) To decide the fair days' work of the workman.
- 3. Meaning of Motion Study:** It is a technique which involves close observation of the movements of body and limbs which are required to perform a specific job.
- 4. Purpose of Motion Study:-**
 - (a) To ascertain the best way of doing job.
 - (b) To eliminate the waste motion.

Ans. to Q.13 (B)**Job Costing V/s Process Costing****Job Costing**

1. Job is performed to meet specific order requirements, which is different from other jobs.
2. Job is a cost centre where costs are ascertained for each job separately which is to be determined after completion of job.
3. There are usually no transfers from one job to another unless there is some surplus work.
4. There may or may not be work-in-progress at the end of accounting period.

Process Costing

1. Process means production segregated into various stages where output of one stage is input to the next stage and output of last stage is final output.
2. Each process is a separate cost centre where costs are ascertained for each process separately which is to be determined at the end of period.
3. In Process costing, the essential feature is transfer of output from one process to another.
4. There is usually some work-in-progress at the beginning as well as the end of accounting period.

Ans. to Q.13 (c)**Cost Accounting with use of Information Technology**

1. With the expansion of e-commerce, the information technology has become an integral part of competitive business accounting.
2. After the introduction of Enterprise Resource Planning (ERP) system, different functional activities get integrated and as a consequence, a single entry into the accounting system provide readymade reports for any & every purpose and saves a lot of time in the context of preparing different sets of documents.
3. A move towards paperless environment can be seen where documents like Bill of Materials, Material Requisition Note, Goods Received Note, Plant Utilisation Report, etc. are no longer required to be prepared in multiple copies and the related department can get e-copies from the system.
4. Cost and revenue variance reports are generated in real time basis which enables the management to take control measures immediately.
5. Information Technology enables an entity to monitor and analyse each process of manufacturing or service activity closely to eliminate irrelevant and unproductive activities.