

Test Paper 2 - Solution

National Test Series

Subject: Cost and Management Accounting

Marks: 100 Marks

Duration: 3 Hrs.

Question 1.

(A) M/S.X Private Limited is manufacturing a special product which requires a component "SKY BLUE". The following particulars are available for the year ended 31st, March 2018.

Annual demand FOR "SKY BLUE"	12000 units
Cost of placing another	₹1,800
Cost unit of "SKY BLUE"	₹640
Carrying cost per annum	18.75%

The company has been offered a quantity discount of 5% on the purchases of "SKY BLUE" provided the order size is 3000 component at a time.

You are required to:

- Compute the Economic Order Quantity.
- Advise whether the quantity discount offer can be accepted.

(5 Marks)

Solution:

(a)

- Calculate of Economic Order Quantity

$$EOQ = \frac{\sqrt{2AO}}{C} = \frac{\sqrt{2 \times 12,000 \text{ units} \times \text{INR}1,800}}{\text{INR}640 \times \frac{18.75}{100}} = 600 \text{ units}$$

- Evaluation of profitability of different options of order quantity

When EOQ is the order

Particulars	₹
Purchase Cost	
12,000 units ₹640	76,80,000
Ordering Cost	
	36,000

$\left(\frac{A}{Q} \times o\right) \frac{12,000 \text{ units}}{600 \text{ units}} \times \text{INR}1,800$	
Carrying Cost	
$\left(\frac{Q}{A} \times C \times I\right) 600 \text{ units} \times \text{INR} 640 \times \frac{1}{2} \times \frac{18.75}{100}$	36,000
Total Cost	77,52,000

(b) When Quantity Discount is accepted

Purchase Cost	
12,000 units × ₹ 608	72,96,000
ordering Cost	
$\left(\frac{A}{Q} \times o\right) \frac{12,000 \text{ units}}{3,00 \text{ units}} \times \text{INR}1,800$	7,200
Carrying Cost	
$\left(\frac{Q}{2} \times C \times I\right) 3,000 \text{ units} \times \text{INR} 608 \frac{1}{2} \times \frac{18.75}{100}$	1,71,000
Total Cost	74,74,200

Advise: The total cost of inventory is higher if EOQ is adopted. If M/S. X Private Limited gets a discount of 5% on the purchases of "SKY BLUE" (if order size is 3,000 components at a time), there will be the financial benefit of ₹2,77,800 (77,52,00–74,74200).

However, the order size of big quantity will increase the volume of the average inventory to 5 times. There may be a risk of shrinkage, pilferage, and obsolescence, etc., of inventory due to an increase in the average volume of inventory holding. This aspect also has to take into consideration before opting the discount offer and taking a decision.

(B) Calculate the earnings of A and B from the following particulars for a month and allocate the employee cost to each job X, Y and Z :

Particulars		A	B
(i)	Basic Wages (₹)	10,000	16,000
(ii)	Dearness Allowance	50%	50%
(iii)	Contribution to provident Fund (on basic wages)	8%	8%
(iv)	Contribution to Employee's State Insurance (on basic wages)	2%	2%

(v) Overtime (Hours)	10	--
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The normal working hours for the month are 200. Overtime is paid at double the total of normal wages and dearness allowance. Employer's contribution to state Insurance and Provident Fund are at equal rates with employees' contributions. The two workers were employed on jobs X, Y and Z in the following proportions:

Jobs	X	Y	Z
Worker A	40%	30%	30%
Worker B	50%	20%	30%

Overtime was done on job Y.

(5 Marks)

Solution:

Statement showing Earnings of Workers A and B

Particulars	A (₹)	B (₹)
Basic wages	10,000	16,000
Dearness Allowance (50% of Basic Wages)	5,000	8,000
Overtime wages (Refer to Working Note 1)	1,500	--
Gross wages earned	16,500	24,000
Less: Contribution to Provident fund	(800)	(1,280)
Less: Contribution to ESI	(200)	(320)
Net wages earned	15,500	22,400

Statement of Employee Cost

Particulars	A (₹)	B (₹)
Gross Wages (excluding overtime)	15,000	24,000
Add: Employer's contribution to PF	800	1,280
Add: Employer's contribution to ESI	200	320
Gross wages earned	16,000	25,600
Normal working hours	200	200
Ordinary wages arte per hour	80	128

Statement Showing Allocation of Wages to Jobs

Particulars	Total Wages (₹)	Jobs		
		X(₹)	Y(₹)	Z(₹)
Worker A:				
- Ordinary Wages (4: 3 : 3)	16,000	6,400	4,800	4,800
- Overtime	1,500	--	1,500	--
Worker B:				
- Ordinary Wages(5:2:3)	25,600	12,800	5,120	7,680
	43,100	19,200	11,420	12,480

Working Note

1. Normal Wages are considered as basic wages

$$\text{Over time} = \frac{2 \times (\text{basic wages} + DA) \times 10 \text{ hours}}{200}$$

$$= 2 \times \left(\frac{15,000}{200} \right) \times 10 \text{ hours} = ₹ 150 \times 10 \text{ hours} = ₹ 1,500$$

- (C)** AXA Passenger Transport Company is running 5 buses between two towns, which are 40 kms apart. Seating capacity of each bus is 40 passengers. Following details are available from their books, for the month of April 20X7:

Particulars	Amount (₹)
Salary of Drivers, Cleaners and Conductors	24,000
Salary to Supervisor	10,000
Diesel and other Oil	40,000
Repairs and Maintenance	8,000
Taxation and Insurance	16,000
Depreciation	26,000
Interest	20,000
Total	1,44,000

Actual passengers carried were 75% of the seating capacity. All the four buses run on all days for the month. Each bus made one round trip per day. Calculate cost per passenger – Kilometer. **(5 Marks)**

Solution:**Working Note:**

Total Passenger Kilometers =

Number of Buses × Distance × Seating Capacity × Used Capacity × Number of days in the Month × Number of trips

= 5 Buses × 40 kms. × 40 Seats × 75% × 30 Days × 2 Single trips (1 Round Trip)

= 3, 60,000 Passenger - Kms.

Cost per Passenger-Km = Total costs / Total Passenger Kilometers

Statement of Cost per Passenger – Km

Particulars	Cost Per Month	Cost per Passenger - Km
A. Standing Charges :	-	-
Wages of Drivers, Cleaners and Conductors	24,000	-
Salary to Supervisor	10,000	-
Taxation and Insurance	16,000	-
Depreciation	26,000	-
Interest	20,000	-
Total Standing Charges	96,000	0.267
B. Running Charges	-	-
Diesel and other Oil	40,000	0.111
C. Maintenance Charges	-	-
Repairs and Maintenance	8,000	0.022
Total	1,44,000	0.400

Cost per Passenger-Km = ₹ 0.40



USE CODE : JUN20

Single Subject
@ 3,540

Single Group
@ 7,670

Both Groups
@ 15,340

(D) Beta Ltd. is manufacturing product N. This is manufactured standard mixing two material namely material P and Q. The standard cost of a mixture is as under :

Material P 150 ltr. @ ₹40 per ltr.
 Material Q 100 ltr. @ ₹60 per ltr.
 Standard loss @20 of total input is expected during production.
 The cost records for the period exhibit following consumption:
 Material P 140ltrs. @ ₹ 42 per ltr.
 Material Q 110 ltr. @ ₹ 56 per ltr.
 Quantity produced was 195ltr

Calculated:

- (i) Material cost variance
- (ii) Material usage variance
- (iii) Material price variance.

(5 Marks)

Solution:

Workings:

Take the good output of 195 ltr. The standard quantity of material required for 195 ltr. Of output is

$$= \frac{195}{80} \times 100 = 243.75 \text{ ltr.}$$

Computation of Standard Cost Actual cost and Revised Actual Quantity

Material	-	Standard cost	-	-	Actual cost	-
-	SQ (Kg.)	SP (₹)	SQ SP (₹)	AQ (kg.)	AP (₹)	AQ AP (₹)
A (60% OF 243.75 It.)	146.25	40	5,850.00	140	42	5,880
B (40% OF 243.75kg.)	97.50	60	5,850.00	110	56	6,160
-	243.75	-	11,700.00	250	-	12,040

Note:

SQ = standard quantity = expected consumption for actual output

AQ = actual quantity of material consumed

SP = standard price per unit

AP = Actual price per unit

Computation of variance:

Material cost variance = (SQ × SP) - (AQ × AP)

$$A = (\text{₹}146.25\text{ltr.} \times \text{₹}40) - (140\text{ltr} \times \text{₹}42) = \text{₹}30.00 \text{ (A)}$$

$$B = (\text{₹}97.50\text{ltr.} \times \text{₹}60) - (110\text{ltr} \times \text{₹}56) = \text{₹}310.00 \text{ (A)}$$

Total = ₹30.00 (A) + ₹310.00 (A)

$$= \text{₹}340.00 \text{ (A)}$$

Material Usage variance = SP × (SQ - AQ)

$$A = \text{₹}40 \times (\text{₹}146.25\text{ltr.} - \text{₹}140\text{ltr}) = \text{₹}250.00 \text{ (F)}$$

$$B = \text{₹}60 \times (97.50\text{ltr.} - 110\text{ltr}) = \text{₹}750.00 \text{ (A)}$$

Total = ₹250.00 (F) + ₹750.00 (A)

$$= \text{₹}500.00 \text{ (A)}$$

Material Price variance = AQ × (SP - AP)

$$A = 140\text{kg.} \times (\text{₹}40 - \text{₹}24) = \text{₹}280 \text{ (A)}$$

$$B = \text{₹}110\text{kg.} \times (\text{₹}60 - \text{₹}56) = \text{₹}440 \text{ (F)}$$

Total = ₹280.00 (A) + ₹440.00 (F)

$$= \text{₹}160 \text{ (F)}$$

Question 2.

(A) The ABC Company has the following account balances and distribution of direct charges on 31st March, 20X1.

Particulars	Total (₹)	Production Depts.		Service Depts.	
		Machine Shop (₹)	Packing (₹)	Gen. Plant (₹)	Store & Maintenance (₹)
Allocated Overheads :					
Indirect labour	14,650	4,000	3,000	2,000	5,650
Maintenance material	5,020	1,800	700	1,020	1,500
Misc. supplies	1,750	400	1,000	150	200
Superintendent's salary	4,000	-	-	4,000	-
Cost & payroll salary	10,000	-	-	10,000	-
Overheads to be apportioned :					

Power	8,000				
Rent	12,000				
Fuel and heat	6,000				
Insurance	1,000				
Taxes	2,000				
Depreciation	1,00,000				
Total	1,64,420	6,200	4,700	17,170	7,350

The following data were compiled by means of the factory survey made in the previous year:

Particulars	Floor space	Radiator sections	No. of employees	Investment ₹	H.P hours
Machine Shop	2,000 Sq. ft.	45	20	6,40,000	3500
Packing	800 Sq. ft.	90	10	2,00,000	500
General Plant	400 Sq. ft.	30	3	10,000	-
Store & Maint.	1,600 Sq. ft.	60	5	1,50,000	1,000
Total	4,800 Sq. ft.	225	38	10,00,000	5,000

Expenses charged to the stores and maintenance departments are to be distributed to the other departments by the following percentages:

Machine shop 50%; Packing 20%; General Plant 30%; General Plant overheads is distributed on the basis of number of employees:

- Prepare an overhead distribution statement with supporting schedules to show computations and basis of distribution including distribution of the service department expenses to producing department.
- Determine the service department distribution by the method of continued distribution. Carry through 3 cycles. Show all calculations to the nearest rupees.

(10 Marks)

Solution:

(a) Overhead Distribution Statement

Allocated Expenses :	Production Departments		Service Departments	
	Machine Shop	Packing	General Plant	Stores & maintenance
Indirect labour	4,000	3,000	2,000	5,650
Maintenance material	1,800	700	1,020	1,500
Superintendent's salary	-	-	4,000	-
Misc. supplies	400	1,000	150	200
Cost & payroll salaries	-	-	10,000	-
Total	6,200	4,700	17,170	7,350
Apportioned expenses				

(See schedule below)	77,720	25,800	2,830	22,650
Total	83,920	30,500	20,000	30,000

Schedule of Apportioned Expenses

Item	Basis Shop	Machine	Packing	General Plant	Stores & Maintenance
		(₹)	(₹)	(₹)	(₹)
Power	Horse Power Hrs.	5,600	800	-	1,600
Rent	Floor Space	5,000	2,000	1,000	4,000
Fuel & Heat	Radiator Secs.	1,200	2,400	800	1,600
Insurance	Investment	640	200	10	150
Taxes	Investment	1,280	400	20	300
Depreciation	Investment	64,000	20,000	1,000	15,000
Total		77,720	25,800	2,830	22,650

(b) Distribution of Service Department Expenses

Particulars	Production Departments		Service Departments	
	Machine	Packing	General Plant	Stores & Maintenance
	(₹)	(₹)	(₹)	(₹)
Total Expense [as per (a)]	83,920	30,500	20,000	30,000
Transfer from Stores & Maintenance	15,000	6,000	9,000	-30,000
Transfer from General Plant	16,571	8,286	-29,000	4,143
Transfer from Stores & Maintenance	2,072	829	1,242	-4,143
Transfer from General Plant	710	355	-1,242	177
Transfer from Stores & Maintenance	88	36	53	-177
Transfer from General Plant	35	18	-53	—
Total	1,18,396	46,024	—	—

(B) M/s. Bansals Construction Company Ltd. took a contract for Rs. 60,00,000 expected to be completed in three years. The following particulars relating to the contract are available:

Particulars	20X7 (Rs.)	20X8 (Rs.)	20X9 (Rs.)
Materials	6,75,000	10,50,000	9,00,000
Wages	6,20,000	9,00,000	7,50,000
Transportation cost	30,000	90,000	75,000
Other expenses	30,000	75,000	24,000
Cumulative work certified	13,50,000	45,00,000	60,00,000
Cumulative work uncertified	15,000	75,000	-

Plant costing Rs. 3,00,000 was bought at the commencement of the contract. Depreciation was to be charged at 25% per annum, on the written down value method. The contractor pays 75% of the value of work certified as and when certified, and makes the final payment on completion of the contract. You are required to prepare a contract account for three years.

(10 Marks)

Solution:

Contract Account (For the year ended 20X7)

Particulars	(Rs.)	Particulars	(Rs.)
To Materials	6,75,000	By Plant at site c/d (75% of Rs.3,00,000)	2,25,000
To Wages	6,20,000	By Work-in-progress c/d:	
To Transportation cost	30,000	- Work certified 13,50,000	
To Other expenses	30,000	- Work uncertified 15,000	13,65,000
To Plant	3,00,000	By Costing P&L A/c (Loss for the year)	65,000
	16,55,000		16,55,000

Contract Account (For the year ended 20X8)

Particulars	(Rs.)	Particulars	(Rs.)
To Plant at site b/d	2,25,000	By Plant at site c/d (75% of Rs.2,25,000)	1,68,750
To Work-in-progress b/d:		By Work-in-progress c/d:	
- Work certified 13,50,000		- Work certified 45,00,000	
-Work uncertified 15,000	13,65,000	- Work uncertified 75,000	45,75,000
To Materials	10,50,000		
To Wages	9,00,000		
To Transportation cost	90,000		
To Other expenses	75,000		
To Costing P&L A/c (Notional Profit for the year)	10,38,750		
	47,43,750		47,43,750

Contract Account (For the year ended 20X9)

Particulars	(Rs.)	Particulars	(Rs.)
To Plant at site b/d	1,68,750	By Plant at site c/d (75% of Rs.1,68,750)	1,26,563
To Work-in-progress b/d:		By Contractee A/c	60,00,000
- Work certified 45,00,000		By Costing P&L A/c	3,66,187
		(Notional Loss for the year)	
-Work uncertified 75,000	45,75,000		
To Materials	9,00,000		
To Wages	7,50,000		
To Transportation cost	75,000		
To Other expenses	24,000		
	64,92,750		64,92,750

Question 3.

(A) Arnab Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 cakes. To process a batch, the following cost would be incurred:

Direct materials - ₹ 5,000

Direct wages - ₹ 500 (irrespective of units)

Oven set- up cost - ₹ 750 (irrespective of units)

AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads.

AC requires a profit margin of 25% of sales value.

Required:

- (i) Determine the price to be charged for 600 cakes.
- (ii) Calculate cost and selling price per cake.
- (iii) Determine what would be selling price per unit if the order is for 605 cakes.

(10 Marks)

Solution:

Statement of cost per batch and per order

No. of batch = 600 units ÷ 50 units = 12 batches

	Particulars	Cost per batch (₹)	Total Cost (₹)
	Direct Material Cost	5,000.00	60,000
	Direct Wages	500.00	6,000
	Oven set-up cost	750.00	9,000
	Add: Production Overheads (20% of Direct wages)	100.00	1,200
	Total Production cost	6,350.00	76,200
	Add: S&D and Administration overheads (10% of Total production cost)	635.00	7,620
	Total Cost	6,985.00	83,820
	Add: Profit (1/3rd of total cost)	2,328.33	27,940
(i)	Sales price	9,313.33	1,11,760
	No. of units in batch	50 units	
(ii)	Cost per unit (₹ 6,985 ÷ 50 units)	139.70	
	Selling price per unit (9,313.33 ÷ 50 units)	186.27	

(iii) If the order is for 605 cakes, then selling price per cake would be as below:

Particulars	Total Cost (₹)
Direct Material Cost	60,500
Direct Wages (₹ 500 × 13 batches)	6,500
Oven set-up cost (₹ 750 × 13 batches)	9,750
Add: Production Overheads (20% of Direct wages)	1,300
Total Production cost	78,050
Add: S&D and Administration overheads (10% of Total production cost)	7,805
Total Cost	85,855
Add: Profit (1/3rd of total cost)	28,618
Sales price	1,14,473
No. of units	605 units
Selling price per unit (₹1,14,473 ÷ 605 units)	189.21

(B) Inorganic Chemicals purchases salt and processes it into more refined products such as Caustic Soda, Chlorine and PVC. In the month of July, Inorganic Chemicals purchased Salt for ₹ 40,000. Conversion of ₹ 60,000 were incurred up to the split off point, at which time two sealable products were produced. Chlorine can be further processed into PVC. The July production and sales information is as follows:

Particulars	Production (in ton)	Sales Quantity (in ton)	Selling price per ton (₹)
Caustic Soda	1,200	1,200	50
Chlorine	800	-	-
PVC	500	500	200

All 800 tons of Chlorine were further processed, at an incremental cost of ₹ 20,000 to yield 500 tons of PVC. There was no beginning or ending inventories of Caustic Soda, Chlorine or PVC in July.

There is active market for Chlorine. Inorganic Chemicals could have sold all its July production of Chlorine at ₹ 75 per ton.

Required:

- (1) To calculate how joint cost of ₹ 1,00,000 would be apportioned between Caustic Soda and Chlorine under each of following methods:
 - (a) Sales value at split- off point;
 - (b) Physical unit method, and
 - (c) Estimated net realisable value.

- (2) Lifetime Swimming Pool Products offers to purchase 800 tons of Chlorine in August at ₹ 75 per ton. This sale of Chlorine would mean that no PVC would be produced in August. How the acceptance of this offer for the month of August would affect operating income?

(10 Marks)

Solution:

(a) Sales value at split- off point method

Products	Sales (in ton)	Selling price per ton (₹)	Sales Revenue (₹)	Joint Cost apportioned (₹)
Caustic Soda	1,200	50	60,000	50,000
Chlorine	800	75	60,000	50,000
			1,20,000	1,00,000

Apportionment of joint cost $\frac{\text{Total joint cost}}{\text{Total sale value}} = \times$ Sale revenue of each product

Joint cost apportioned to Caustic Soda

$$\frac{1,00,000}{1,20,000} \times 60,000 = ₹ 50,000$$

$$\text{Joint cost apportioned to Chlorine} = \frac{1,00,000}{1,20,000} \times 60,000 = ₹ 50,000$$

(b) Physical measure method

Products	Sales (in ton)	Joint Cost apportioned (₹)
Caustic soda	1,200	60,000
Chlorine	800	40,000
		1,00,000

$$\text{Apportioned joint cost} = \frac{\text{Total joint cost}}{\text{Total physical value}} \times \text{physical units of each product}$$

Joint cost apportioned to Caustic Soda

$$\frac{1,00,000}{2,000 \text{ ton}} \times 1,200 \text{ ton} = ₹ 60,000$$

Joint cost apportioned to chlorine

$$\frac{1,00,000}{2,000 \text{ ton}} \times 800 \text{ ton} = ₹ 40,000$$

(c) Estimated net realisable value method:

Particulars	Caustic Soda	Chlorine
	Amount (₹)	Amount (₹)
Sales Value	60,000 (₹50 × 1,200 tons)	1,00,000 (₹ 200 × 500 tons)
Less: Post split-off cost (Further processing cost)	-	(20,000)
Net Realisable Value	60,000	80,000
Apportionment of Joint Cost of ₹ 1,00,000 in ratio of 3:4	42,857	57,143

2.

Incremental revenue from further processing of Chlorine into PVC (500 tons × ₹ 200 – 800 tons × ₹ 75)	₹ 40,000
Less : Incremental cost of further processing of Chlorine into PVC	₹ 20,000
Incremental operating income from further processing	₹ 20,000

The operating income of Inorganic Chemicals will be reduced by ₹ 20,000 in August if it sells 800 tons of Chlorine to Lifetime Swimming Pool Products, instead of further processing of Chlorine into PVC for sale.

Question 4.

(A) The following information relates to a manufacturing concern for the ended 31st March 2018:

Particular	₹
Raw Material (opening)	2,28,000
Raw Material (closing)	3,05,000
Purchase of Raw Material	42,25,000
Freight Inwards	1,00,000
Direct wages paid	12,56,000
Direct wages -outstanding at the end of the year	1,50,000
Factory Overheads	20% of prime cost
Work in Progress (opening)	1,92,500
Work in progress (closing)	1,40,700
Administrative Overheads (related to production)	1,73,000
Distribution Expenses	₹ 16 per unit
Finished Stock (opening)-1217 Units	6,08,500
Sale of a scrap of material	8,000

The firm produced 1400units of output during the year. The stock of finished goods at the end of the year is valued at cost of production.

The firm sold 14153 units at a price of 618 per unit during the year.

Prepared cost sheet of the firm.

(10 Marks)



USE CODE : NOV20

**Single Subject
@ 5,900**

**Single Group
@ 11,800**

**Both Groups
@ 21,240**

Solution:

Cost Sheet for the year ended 31st March 2018.

Units produced-14,000units

Particular	Amount	Amount (₹)
Raw material purchased	-	42,25,000
Add: freight Inward	-	1,00,000
Add: an Opening value of the raw material	2,28,000	
Less: a Closing value of the raw material	(-) 3,05,000	(-) 77,000
-	-	42,48,000
Less: Sale of a scrap of material	-	(-) 8,000
Material consumed	-	42,40,000
Direct wages (12,56,000+1,50,000)	-	14,06,000
Prime Cost	-	56,46,000
Factory overheads (205 of ₹ prime cost)		11,29,200
Add: opening value Of W-I-P	1,92,500	-
Less: a closing value of W-I-P	(-) 1,40,000	(-51,800)
Factory cost	-	68,27,000
Add: Administrative overheads	-	1,73,000
Cost of production	-	70,00,000
Add: value of opening finished stock	6,08,500	
Less: the value of closing finished stock	(-)5,32,000	(+) 76,500
$[INR 500 \frac{70,00,000}{14,000} \times 1,064]$		
Cost of goods sold	-	70,76,500
Distribution expenses (₹16 × 14,153 units)	-	2,26,448
Cost of sales	-	73,03,448
Profit (Balancing figure)	-	14,43,606
Sales (₹ 618 × 14,153 units)	-	87,46,554

(B) PH Gems Ltd. is manufacturing ready-made suits. It has annual production capacity of 2,000 pieces. The cost Accountant has presented the following information for the year to the management.

Particular	Amount (₹)	Amount(₹)
Sales 1,500 pieces @ ₹1,800 per piece	-	27,00,000
Direct Material	5,94,200	-
Direct labour	4,42,600	-
Overheads(40% fixed)	11,97,000	22,33,800
Net profit	-	4,66,300

Evaluate the following options:

- (i) If selling price increased by ₹200, the sales will come down to 60% of the total annual capacity. Should the company increase its selling price?
- (ii) The company can earn a profit of 20% on sales if the company provides TIEPIN with ready-made suits. The cost of each TIEPIN is ₹18. Calculate the sales to earn a profit of 20% on sales.

(10 Marks)

Solution:

(i) Evolution of option (i)

Selling price = ₹1800 + ₹200 = ₹2,000

Sales = 2000 × 60% = 1200 pieces

Particulars	(₹)
Sales (1,200 pieces @ 2,000)	24,00,000
Less: Direct	(-) 4,75,360
Material $\left(\frac{INR 5,94,200}{1,500 \text{ units}} \times 1,200 \right)$	
Direct labour $\left(\frac{INR 4,42,600}{1,500 \text{ units}} \times 1,200 \right)$	3,54,080
Variable overhead $\left(\frac{INR 11,97,000 \times 60\%}{1,500 \text{ units}} \times 1,200 \right)$	5,74,560
Contribution	9,96,000
Less: Fixed cost (₹11,97,000 × 40%)	(-) 4,78,800
Profit	5,17,200

If the price has been increased by 11.11% (increased by 200 on 1,800) sales goes down by 20% (Decreased by 300 on 1,500). Change in demand is greater than a change in price. Since the variable costs are still the same profit has been arisen to ₹5,17,200 in spite of high elasticity of demand. PH gems would not be able to sustain this policy on account of change if any in variable costs.

(ii) Evaluation of option (ii)

Particulars	(₹)	(₹)
Sales	-	1,800.00
Less: variable cost	-	
Direct Material $\left(\frac{INR 5,94,200}{1,500} \right)$	396.13	-
Cost of Tie PIN	18.00	-
Direct labour $\left(\frac{INR 4,42,600}{1,500} \right)$	295.07	-
Variable	478.80	(-) 1,188

overheads $\left(\frac{INR 11,97 \times 60\%}{1,500}\right)$		
Contribution	-	612.00
P/V Ratio ($\frac{₹612}{1800} \times 100$)	-	34.0%

Sales to required earn a profit of 20%

$$\text{Sales} = \frac{4,78,800 + 0.20 \text{ of sales}}{34.00\%}$$

$$\text{Sales} = INR 34,20,000 \left(\frac{34,20,000}{1800}\right)$$

OR,

1,900Units

To earn profit 20% of readymade suit (along with TIE PIN) company has to sell 1,900 units i.e. 95% of the full capacity. This sales level of 1,900 units is justified only if variable cost is constant. Any upside in variable cost would impact profitability, to achieve the desired profitability. Production has to be increased but the scope is limited to 5% only.

Question: 5

(A) Action Plan Manufacturers normally produce 8,000 units of their product in a month, in their Machine Shop. For the month of January, they had planned for a production of 10,000 units. Owing to a sudden cancellation of a contract in the middle of January, they could only produce 6,000 units in January.

Indirect manufacturing costs are carefully planned and monitored in the Machine Shop and the Foreman of the shop is paid a 10% of the savings as bonus when in any month the indirect manufacturing cost incurred is less than the budgeted provision.

The Foreman has put in a claim that he should be paid a bonus of ₹ 88.50 for the month of January. The Works Manager wonders how anyone can claim a bonus when the Company has lost a sizeable contract. The relevant figures are as under:

Indirect manufacturing	Expenses for a normal month (₹)	Planned for January (₹)	Actual in costs January (₹)
Salary of foreman	1,000	1,000	1,000
Indirect labour	720	900	600
Indirect material	800	1,000	700
Repairs and maintenance	600	650	600
Power	800	875	740
Tools consumed	320	400	300
Rates and taxes	150	150	150

Depreciation	800	800	800
Insurance	100	100	100
	5,290	5,875	4,990

Do you agree with the Works Manager? Is the Foreman entitled to any bonus for the performance in January? Substantiate your answer with facts and figures.

(10 Marks)

Solution:

Flexible Budget of "Action Plan Manufacturers" (for the month of January)

Indirect manufacturing cost	Nature of cost (₹)	Expenses for a normal month (₹)	Planned expenses (₹)	Expenses as per flexible budget (₹)	Actual expenses (₹)	Difference (₹)
	(1)	(2)	(3)	(4)	(5)	(6) = (5) - (4)
Salary of foreman	Fixed	1,000	1,000	1,000	1,000	Nil
Indirect labour (WN 1)	Variable	720	900	540	600	60
Indirect material (WN 2)	Variable	800	1,000	600	700	100
Repair and maintenance (WN 3)	Semi-variable	600	650	550	600	50
Power(WN 4)	Semi-variable	800	875	725	740	15
Tools consumed (WN 5)	Variable	320	400	240	300	60
Rates and taxes	Fixed	150	150	150	150	Nil
Depreciation	Fixed	100	100	100	100	Nil
Insurance	Fixed	5,290	5,875	4,705	4,990	285

Conclusion: The above statement of flexible budget shows that the concern's expenses in the month of January have increased by ₹ 285 as compared to flexible budget. Under such circumstances assuming the expenses are controllable and based on the financial perspective the Foreman of the company may not be entitled for any performance bonus for the month of January.

Working notes:

- Indirect labour cost per unit $\frac{720}{8,000} = ₹ 0.09$
Indirect labour for 6,000 units = 6,000 × ₹ 0.09 = ₹ 540
- Indirect material cost per unit $\frac{800}{8,000} = ₹ 0.10$
Indirect material for 6,000 units = 6,000 × ₹ 0.10 = ₹ 600

3. According to high and low point method of segregating semi-variable cost into fixed and variable components, following formulae may be used.

$$\text{Variable cost of repair and maintenance per unit} = \frac{\text{Change in expense}}{\text{Change in output level}} = \frac{650 - 600}{2,000} = ₹ 0.025$$

For 8,000 units

Total Variable cost of repair and maintenance = ₹ 200

Fixed repair & maintenance cost = ₹ 400

Hence at 6,000 unit's output level, total cost of repair and maintenance should be
= ₹ 400 + ₹ 0.025 × 6,000 units = ₹ 400 + ₹ 150 = ₹ 550

4. Variable cost of power per unit = $\frac{875 - 800}{2,000 \text{ units}} = 0.0375$

For 8,000 units

Total variable cost of power = ₹ 300

Fixed cost = ₹ 500

Hence, at 6,000 unit's output level, total cost of power should be

= ₹ 500 + ₹ 0.0375 × 6,000 units = ₹ 500 + ₹ 225 = ₹ 725

5. Tools consumed cost for 8,000 units = ₹ 320

Hence, tools consumed cost for 6,000 units = (₹ 320/8,000 units) × 6,000 units = ₹ 240

- (B)** Alpha Ltd. is engaged in the production of a product A which passes through 3 different process-process p, Process Q and Process R. The following data relating to cost and output to cost output is obtained from the books of accounts for the month of April 2017:

Particulars	Process P	Process Q	Process R
Direct Material	38,000	42,500	42,880
Direct labor	30,000	40,000	50,000

Production overheads of ₹90,000 were recovered as a percentage of direct labor.

10,000 kg of raw material @ ₹ 5 per kg. Was issued to process p. There was no stock of materials or work in process. The entire output of each process passes directly to the next process and finally to the warehouse. There is normal wastage in the processing of 10%. The transfer value of wastage is ₹1per kg. The output of each process transferred to the next process and finally to warehouse areas under: P

Process P = 9,000 kg

Process Q = 8,200 kg

Process R = 7,300 kg

The company fixes the selling price of the end product in such a way so as to yield a profit of 25% selling price.

Prepare process P, Q, and R accounts. Also calculate the selling price per unit of the end product.

(10 Marks)

Solution:

Process-P-Account

particular	Kg	Amount (₹)	particular	Kg	Amount (₹)
To input	10,000	50,000	By Normal Wastage (1,000kg × ₹1)	1,000	1,000
To Direct Material	-	38,000	By Process-Q (9,000kg × ₹15.50)	9,000	1,39,500
To Direct Labour	-	30,000	-	-	-
To production OH (₹90,000 × $\frac{3}{12}$)	-	22,500	-	-	-
	10,000	1,40,500		10,000	1,40,500

$$\text{Cost per unit} = \frac{\text{INR } 1,40,000 - \text{INR } 1,000}{10,000 \text{ kg} - 1,000 \text{ kg}} = \text{INR } 15.50$$

Process-Q Account

Particulars	kg	Amount (₹)	Particulars	Kg.	Amount (₹)
To Process-P a/c	9,000	1,39,500	by Normal wastage (900kg × ₹1)	900	900
To Direct Material	-	42,500	By process. Q (8,200kg × ₹31)	8,200	2,54,200
To Direct Labour	-	40,000			
To Production OH (90,000 × $\frac{4}{12}$)	-	30,000	-	-	-
To Abnormal gain (100kg × ₹31)	100	3,100	-	-	-
	9,100	2,55,100		9,100	2,55,100

$$\text{Cost per unit} = \frac{\text{INR } 2,52,500}{9,000 \text{ kg} - 900 \text{ kg}} = \text{INR } 31$$

Process-R Account

Particulars	kg	Amount(₹)	Particulars	Kg.	Amount (₹)
To Process Q a/c	8,200	2,54,200	By Normal wastage (820kg × ₹1)	820	820
To Direct Material	-	42,880	By Normal wastage (820kg × ₹52)	80	4,160
Direct labour	-	50,000	By Finished Goods (7,300 × ₹52)	7,300	3,79,600
To Production	-	37,000	-	-	-
-	8,200	3,84,580	-	8,200	3,84,580

$$\text{Cost per unit} = \frac{\text{INR } 3,84,580 - \text{INR } 820}{8,200 \text{ kg} - 820 \text{ kg}} = \text{INR } 52$$

Calculation of selling price per unit of the unit end product:

Cost per unit	₹52.00
Add Profit 25% on selling i.e., 1/3 rd of Cost	₹17.33
	₹69.33

Question 6.

(A) What are the motivational factors for adopting a reconciliation process? Explain.

(4 Marks)

Solution:

When the cost and financial account are kept separately, it is imperative that these should be reconciled the cost accounts would not be reliable. The reconciliation of the set of accounts can be made if both the sets contain sufficient detail as would enable the causes of difference to be located. It is, therefore, important that in the financial accounts, the expenses should be analyzed in the same way as in cost accounts.

A motivation for reconciliation:

- To ensure the reliability of cost data
- To ensure the ascertainment of correct product cost
- To ensure correct decision making by the management based on cost & financial data.

(B) Identify the methods of costing where:

- All cost are directly changed to a specific job.
- All costs are directly charged to a group of product.
- The nature of the product is complex and method cannot be ascertained.
- Cost is ascertained for a single product.

(4 Marks)

Solution:

1. Job costing.
2. Batch costing
3. Multiple Costing.
4. Single or Output Costing.

(C) Discuss the two types of cost associated with labour turnover

(4 Marks)

Solution:

Cost of Employees (Labour) Turnover: Two types of costs which are associated with employee turnover are:

(a) Preventive Costs: The cost incurred to prevent employee turnover or keep it as lowest as possible. Cost incurred for prevention of employee turnover includes the following:

- (i) Cost of medical benefit provided to the employees;
- (ii) Cost incurred on employees' welfare like pension etc.
- (iii) Cost on other benefits with an objective to retain employees.

(b) Replacement Costs: These are the costs which arise due to employee turnover. If employees leave soon after they acquire the necessary training and experience of good work, additional costs will have to be incurred on new workers, i.e., cost of recruitment, training and induction, abnormal breakage and scrap and extra wages and overheads due to the inefficiency of new workers.

It is obvious that a company will incur very high replacement costs if the rate of employee turnover is high. Similarly, only adequate preventive costs can keep Employee turnover at a low level. Each company must, therefore, work out the optimum level of Employee turnover keeping in view its personnel policies and the behavior of replacement cost and preventive costs at various levels of Employee turnover rates.

(D) What is blanket overhead rate? In which situations, blanket rate is to be used and why?

(4 Marks)

Solution:

Blanket Overhead Rate: Blanket overhead rate refers to the computation of one single overhead rate for the whole factory. It is to be distinguished from the departmental overhead rate which refers to a separate rate for each individual cost center or department. The use of blanket rate may be proper in certain factories producing only one major product in a continuous process or where the work performed in every department is fairly uniform or standardized.

This overhead rate is computed as follows:

$$\text{Blanket rate} = \frac{\text{Total overheads for the factory}}{\text{Total number of units of base for the factory}}$$

A blanket rate should be applied in the following cases:

- (1) Where only one major product is being produced.
- (2) Where several products are produced, but
 - a. All products pass through all departments; and
 - b. All products are processed for the same length of time in each department.

(E) What are the limitations of ABC?

(4 Marks)

Solution:

The main limitations using Activity Based Costing are:

- (i) It is more expensive particularly in comparison with Traditional costing system.
- (ii) It is not helpful to small Organization.
- (iii) It may not be applied to organization with very limited products.
- (iv) Selection of most suitable cost driver may not be useful.



USE CODE : JUN20

Single Subject
@ 3,540

Single Group
@ 7,670

Both Groups
@ 15,340

USE CODE : NOV20

Single Subject
@ 5,900

Single Group
@ 11,800

Both Groups
@ 21,240

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