

*Commercial's*

*Problems and Solutions in*

# **COST AND MANAGEMENT ACCOUNTING**

**For CA INTER as per New Syllabus 2023**

**Applicable for May 2024 Examination & Onwards**

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**3rd Edition  
Feb. 2024**

**Commercial Law Publishers (India) Pvt. Ltd.**

# Contents

<i>Cost &amp; Management Accounting May 2023 (Solved Paper)</i> .....	iii
<i>Cost &amp; Management Accounting November 2022 (Solved Paper)</i> .....	xi
<b>Chapter 1 Introduction to CMA</b> .....	<b>1</b>
<b>Chapter 2 Material</b> .....	<b>22</b>
Section I Theory Questions .....	22
Section II Problems - EOQ .....	30
Section III Problems – Inventory Stock Levels.....	54
Section IV Problems – ABC Analysis .....	67
Section V Problems – Valuation of Inventory .....	71
Section VI Problems – Store Ledger .....	76
Section VII Problems – Inventory Turnover Ratio .....	86
Section VIII Problems - Miscellaneous.....	88
<b>Chapter 3 Labour</b> .....	<b>96</b>
Section I Theory Questions .....	96
Section II Problems on Plans – Halsey, Rowan, etc.....	103
Section III Problems – Group Bonus .....	127
Section IV Problems – Labour Turnover.....	129
Section V Problems – Advanced .....	137
Section VI Problems – Treatment of Overtime .....	154
Section VII Problems – Miscellaneous .....	163
<b>Chapter 4 Overheads</b> .....	<b>166</b>
Section I Theory Questions.....	166
Section II Problems – Apportionment of Overheads .....	171
Section III Problems – Machine Hour Rate.....	207
Section IV Problems – Absorption of Overheads .....	222
Section V Problems – Treatment of under and over recovery .....	234
Section VI Problems – Miscellaneous.....	246
<b>Chapter 5 Activity Based Costing</b> .....	<b>249</b>
Section I Theory Questions.....	249
Section II Basic Problems .....	249
Section III Advanced Problems.....	263
<b>Chapter 6 Cost Sheet</b> .....	<b>295</b>
Section I Basic Problems – Cost Sheet .....	295
Section II Basic Problems – Cost Sheet.....	295
Section III Advanced Problem – Cost Sheet .....	310

Section IV Problems – Missing Data.....	316
<b>Chapter 7 Cost Accounting Systems.....</b>	<b>325</b>
Section I Theory Questions.....	325
Section II Problems – Reconciliation of Cost and Financial Accounts (Statement).....	329
Section III Problems – Reconciliation of Cost and Financial Accounts (Memorandum Reconciliation Account).....	331
Section IV Problems – Reconciliation of Cost and Financial Accounts (Cost Sheet + Reconciliation Statement).....	335
Section V Problems – Non-Integrated Accounts.....	351
Section VI Problems – Integrated Accounts.....	375
Section VII Problems – Non-Integrated Accounts + Reconciliation of Cost and Financial Accounts.....	390
<b>Chapter 8 Unit &amp; Batch Costing.....</b>	<b>398</b>
Section I Theory Questions.....	398
Section II Simple Problems - Unit Costing (Cost Sheet).....	399
Section III Advanced Problems - Unit Costing (Cost Sheet).....	406
Section IV Simple Problems - Job Costing (Cost Sheet for a Job).....	408
Section V Advanced Problems - Job Costing (EBQ).....	410
<b>Chapter 9 Job &amp; Contract Costing.....</b>	<b>414</b>
Section I Theory Questions.....	414
Section II Basic Problems – Job Costing.....	417
Section III Advanced Problems – Job Costing.....	427
Section IV Basic Problems – Contract Costing.....	433
Section V Advanced Problems – Contract Costing.....	450
<b>Chapter 10 Process &amp; Operation Costing.....</b>	<b>470</b>
Section I Theory Questions.....	470
Section II Basic Problems – Without W.I.P. ....	472
Section III Problems – Based on Equivalent Production [FIFO] (With Opening W.I.P.) Note: Making Process-I only.....	492
Section IV Problems – Based on Equivalent Production [Weighted Average] (With Opening W.I.P.) Note: Making Process-I only.....	503
Section V Problems – Based on Equivalent Production [FIFO and Weighted Average] (With or without Opening W.I.P.) Note: Making Process-II directly.....	522
Section VI Problems – Based on Equivalent Production [FIFO and Weighted Average] (With or without Opening W.I.P.) Note: Making both Process-I and II.....	529
Section VII Problems – Inter Process Profits.....	530
<b>Chapter 11 Joint and By-products.....</b>	<b>539</b>
Section I Theory Questions.....	539
Section II Problems – Methods of Apportionment of Joint Processing Cost.....	541

## Contents

Section III Problems – Apportionment & Decision Making (Whether to further process or not).....	551
<b>Chapter 12 Service Costing/Operating Costing.....</b>	<b>565</b>
Section I Theory Questions.....	565
Section II Problems – Computation of Passenger Kilometers/Tonne Kilometers.....	568
Section III Basic Problems – Transport Services.....	569
Section IV Advanced Problems – Transport Services.....	594
Section V Problems – Hotel Costing.....	608
Section VI Problems – Hospital Costing.....	614
Section VII Problems – Airline Costing.....	619
Section VIII Problems – Costing of Toll Roads.....	621
Section IX Miscellaneous Problems – Other Services.....	624
<b>Chapter 13 Standard Costing.....</b>	<b>631</b>
Section I Theory Questions.....	631
Section II Problems – Material Variances.....	634
Section III Problems – Labour Variances.....	656
Section IV Problems – Fixed Overhead Variances.....	665
Section V Problems – Variable and Fixed Overhead Variances.....	671
Section VI Mix Problems – Material and Labour Variances.....	679
Section VII Comprehensive Problems.....	684
Section VIII Problems – Variances with WIP (equivalent production concept).....	696
Section IX Problems – Control Ratios [Note: This section is also covered in the Chapter of 'Budgets and Budgetary Control'].....	699
<b>Chapter 14 Marginal Costing.....</b>	<b>702</b>
Section I Theory Questions.....	702
Section II Basic Problems – CVP Analysis.....	706
Section III Advanced Problems – CVP Analysis.....	753
Section IV Problems – Decision Making.....	770
Section V Problems – Absorption Costing.....	777
<b>Chapter 15 Budgets and Budgetary Control.....</b>	<b>786</b>
Section I Theory Questions.....	786
Section II Problems - Production Budget.....	792
Section III Problems – Material Purchase and Consumption Budget.....	795
Section IV Problems – Flexible Budget.....	816
Section V Problems - Cash Budget.....	839
Section VI Problems – Control Ratios.....	841

# COST AND MANAGEMENT ACCOUNTING

## [MAY 2023]

### Question 1(a) – 4 x 5 Marks = 20

TSK Limited manufactures a variety of products. The annual demand for one of its products – Product 'X' is estimated as 1,35,000 units. Product 'X' is to be manufactured done in batches. Set up cost of each batch is ₹ 3,375 and inventory holding cost is ₹ 5 per unit. It is expected that demand of Product 'X' would be uniform throughout the year.

Required:

- (i) Calculate the Economic Batch Quantity (EBQ) for Product 'X'.
- (ii) Assuming that the company has a policy of manufacturing 7,500 units of Product 'X' per batch, calculate the additional cost incurred as compared to the cost incurred as per Economic Batch Quantity (EBQ) as computed in (i) above.

**Answer**

**Please See:** Unit and Batch Costing (Chapter 8), Question 14 – Page 411, (July 2021)

### Question 1(b)

SMC Company Limited is producing a particular design of toys under the following existing incentive system:

Normal working hours in the week	48 hours
Late shift hours in the week	12 hours
Rate of payment	Normal working: ₹ 150 per hour Late shift: ₹ 300 per hour

Average output per operator for 60 hours per week (including late shift hours): 80 toys

The company's management has now decided to implement a system of labour cost payment with either the Rowan Premium Plan or the Halsey Premium Plan in order to increase output, eliminate late shift overtime, and reduce the labour cost.

The following information is obtained:

The standard time allotted for ten toys is seven and half hours.

Time rate : ₹ 150 per hour (as usual).

Assuming that the operator works for 48-hours in a week and produces 100 toys, you are required to calculate the weekly earnings for one operator under-

- (i) The existing Time Rate,
- (ii) Rowan Premium Plan and,
- (iii) Halsey Premium Plan (50%)

**Answer**

**Please See:** Labour (Chapter 3), Question 61 – Page 144, (November 2005)

### Question 1(c)

The following information pertains to ZB Limited for the year:

Profit volume ratio	30%
Margin of Safety (as % of total sales)	25%
Fixed cost	₹ 12,60,000

You are required to calculate:

- (i) Break even sales value (₹),
- (ii) Total sales value (₹) at present,
- (iii) Proposed sales value (₹) if company wants to earn the present profit after reduction of 10% in fixed cost,

- (iv) Sales in value (₹) to be made to earn a profit of 20% on sales assuming fixed cost remains unchanged,
- (v) New Margin of Safety if the sales value at present as computed in (ii) decreased by 12.5%.

**Answer**

**Please See:** Marginal Costing (Chapter 14), Question 43 – Page 730, (No previous attempt)

**Question 1(d)**

RST Toll Plaza Limited built an 80 kilometer long highway between two cities and operates a toll plaza to collect tolls from passing vehicles using the highway. The company has estimated that 50,000 light weight, 12,000 medium weight and 10,000 heavy weight vehicles will be using the highway in one month in outward journey and the same number for return journey.

As per government notification, vehicles used for medical emergencies, Members of Parliament, and essential services are exempt from toll charges. It is estimated that 10% of light weight vehicles will pass the highway for such use.

It is the policy of the company that if vehicles return within 24 hours of their outward journey, the toll fare will be reduced by 25 percent automatically. It is estimated that 30% of chargeable light weight vehicles return within the specified time frame.

The toll charges for medium weight vehicles is to be fixed as 2.5 times of the light weight vehicles and that of heavy weight vehicles as 2 times of the medium weight vehicles.

The toll operating and maintenance cost for a month is ₹ 59,09,090. The company requires a profit of 10% over the total cost to cover interest and other costs.

Required:

- (i) Calculate the toll rate for each type of vehicle if concession facilities are not available on the return journey.
- (ii) Calculate the toll rate that will be charged from light weight vehicles if a return journey concession facility is available, assuming that the revenue earned from light weight vehicles calculated in option (i) remains the same.

**Answer**

**Please See:** Service Costing (Chapter 12), Question 45 – Page 621, (No previous attempt)

**Question 2(a) – 10 Marks**

A Limited has furnished the following information for the months from 1<sup>st</sup> January to 30<sup>th</sup> April, 2023:

	January	February	March	April
Number of Working days	25	24	26	25
Production (in units) per working day	50	55	60	52
Raw Material Purchases (% by weights to total of 4 months)	21%	26%	30%	23%
Purchase price of raw material (per kg)	₹ 10	₹ 12	₹ 13	₹ 11

Quantity of raw material per unit of product : 4 kg.

Opening stock of raw material on 1<sup>st</sup> January: 6,020 kg. (Cost ₹ 63,210)

Closing stock of raw material on 30<sup>th</sup> April: 5,100 kg.

All the purchases of material are made at the start of each month.

Required:

- (i) Calculate the consumption of raw materials (in kgs) month-by-month and in total.
- (ii) Calculate the month-wise quantity and value of raw materials purchased.
- (iii) Prepare the priced stores ledger for each month using the FIFO method.

**Answer**

**Please See:** Budgets and Budgetary Control (Chapter 15), Question 25 – Page 801, (No previous attempt)

**Question 2(b) – 10 Marks**

B Limited has taken a contract for ₹ 70,00,000 and furnishes the following information:

	1st Year	2nd Year
	(Amount in ₹)	(Amount in ₹)

Material	12,50,000	13,65,000
Wages	12,50,000	11,44,000
Direct Expenses	4,20,000	3,80,000
Indirect Expenses	2,70,000	2,60,000
Work Certified	32,00,000	70,00,000
Work Uncertified	2,19,000	-

**Other Information:**

Plant costing ₹ 3,40,000 was bought at the commencement of the contract.

Depreciation of ₹ 85,000 per annum is charged on the plant on Straight Line Method (SLM) basis.

There is a provision for escalation clause in the contract for increase in material rate and wage rate in the second year only. Standard material for the first and second year was 12,000 units each year @ ₹ 90 per unit whereas the actual consumption was 12,500 @ ₹ 100 per unit in the first year and 13,000 units @ ₹ 105 per unit in the 2<sup>nd</sup> year. Standard labour hours for first year were 10,000 hours and for the second year it was 9,000 hours. Standard wage rate was ₹ 120 per hour. The firm has paid for 10,000 hours @ ₹ 125 per hour in the first year and 8,800 hours @ ₹ 130 per hour in the second year.

**Required:**

- (i) Prepare Contract Account for both years without considering escalation clause.
- (ii) Compute the total value of contract by considering the escalation clause.
- (iii) Compute the total increase/ (decrease) in the cost of material and wages for both the years.

**Answer**

Please See: Job and Contract Costing (Chapter 9), Question 49 – Page 468, (November 2020)

**Question 3(a) – 10 Marks**

PQR Limited manufactures three products – Product X, Product Y and Product Z. The output for the current year is 2,50,000 units of Product X, 2,80,000 units of Product Y and 3,20,000 units of Product Z respectively.

Selling price of product X is 1.25 times of Product Z whereas Product Y can be sold at double the price at which Product Z can be sold. Product Z can be sold at a profit of 20% on its marginal cost.

**Other Information are as follows:**

	Product X	Product Y	Product Z
Direct Material Cost (per unit)	₹ 20	₹ 20	₹ 20
Direct Wagers Cost (per unit)	₹ 16	₹ 24	₹ 16

Raw material used for manufacturing all the three product is the same. Direct Wages are paid @ ₹ 4 per labour hour.

Total overhead cost of the company is ₹ 52,80,000 for the year, out of which ₹ 1 per labour hour is variable and the rest is fixed.

In the next year it is expected that sales of product X and product Z will increase by 12% and 15% respectively and sale of product Y will decline by 5%. The total overhead cost of the company for the next year is estimated at ₹ 55,08,000. The variable cost of ₹ 1 per labour hour remains unchanged.

It is anticipated that all other costs will remain same for the next year and there is no opening and closing stock.

Selling price per unit of each product will remain unchanged in the next year.

**Required:**

Prepared a budget showing the current position and the position for the next year clearly indicating the total product-wise contribution and profit for the company as a whole.

**Answer**

Please See: Budgets and Budgetary Control (Chapter 15), Question 32 – Page 813, (No previous attempt)

**Question 3(b) – 10 Marks**

The following information is available from SN Manufacturing Limited's books for the month of April 2023.

	April 1	April 30
<b>Opening and closing inventories data:</b>		
Stock of finished goods	2,500 units	?
Stock of raw materials	₹ 42,500	₹ 38,600
Work-in-progress	₹ 42,500	₹ 42,800
<b>Other data are:</b>		₹ 6,95,000
Raw materials purchased		₹ 36,200
Carriage inward		₹ 3,22,800
Direct wages paid		₹ 35,800
Royalty paid for production		₹ 1,53,600
Purchases of special designs, moulds and patterns (estimated life 12 production cycles)		₹ 70,600
Power, fuel and haulage (factory)		₹ 31,680
Research and development costs for improving the production process (amortized)		₹ 6,920
Primary packing cost (necessary to maintain quality)		₹ 46,765
Administrative Overhead		₹ 28,000
Salary and wages for supervisor and foremen		

**Other information:**

Opening stock of finished goods is to be valued at ₹ 8.05 per unit.

During the month of April, 1,52,000 units were produced and 1,52,600 units were sold. The closing stock of finished goods is to be valued at the relevant month's cost of production. The company follows the FIFO method.

Selling and distribution expenses are to be charged at 20 paisa per unit.

Assume that one production cycle is completed in one month.

**Required:**

- (i) Prepare a cost sheet for the month ended on April 30, 2023, showing the various elements of cost (raw material consumed, prime cost, factory cost, cost of production, cost of goods sold, and cost of sales).
- (ii) Calculate the selling price per unit if profit is charged at 20 percent on sales.

**Answer**

Please See: Cost Sheet (Chapter 6), Question 11 – Page 306, (RTP November 2020)

**Question 4(a) – 10 Marks**

ABC Company produces a Product 'X' that passes through three processes: R, S and T. Three types of raw materials, viz., J, K, and L are used in the ratio of 40:40:20 in process R. The output of each process is transferred to next process. Process loss is 10% of total input in each process. At the stage of output in process T, a by-product 'Z' is emerging and the ratio of the main product 'X' to the by-product 'Z' is 80:20. The selling price of product 'X' is ₹ 60 per kg.

The company produced 14,580 kgs of product 'X'.

Material price: Material J @ ₹ 15 per kg; Material K @ ₹ 9 per kg; Material L @ ₹ 7 per kg. Process costs are as follows:

Process	Variable cost per kg (₹)	Fixed cost of Input (₹)
R	5.00	42,000
S	4.50	5,000
T	3.40	4,800



The by-product 'Z' cannot be processed further and can be sold at ₹ 30 per kg at the split-off stage. There is no realizable value of process losses at any stage.

**Required:**

Present a statement showing the apportionment of joint costs on the basis of the sales value of product 'X' and by-product 'Z' at the split-off point and the profitability of product 'X' and by-product 'Z'.

**Answer**

**Please See:** Joint and By Products (Chapter 11), Question 15 – Page 551, (December 2021 – 10 Marks)

**Question 4(b) – 5 Marks**

Beta Limited produces 50,000 Units, 45,000 Units and 62,000 Units of product 'A,' 'B' and 'C' respectively. At present the company follows absorption costing method and absorbs overhead on the basis of direct labour hours. Now, the company wants to adopt Activity Based Costing.

The information provided by Beta Limited is as follows:

	Product A	Product B	Product C
Floor Space Occupied	5,000 Sq. Ft.	4,500 Sq. Ft	6,200 Sq. ft
Direct Labour Hours	7,500 Hours	7,200 Hours	7,800 Hours
Direct Machine Hours	6,000 Hours	4,500 Hours	4,650 Hours
Power consumption	32%	28%	40%

Overhead for year are as follows:

	(₹)
Rent & Taxes	8,63,500
Electricity Expenses	10,66,475
Indirect labour	13,16,250
Repair & Maintenance	<u>1,28,775</u>
	33,75,000

**Required:**

- (i) Calculate the overhead rate per labour hour under Absorption Costing.
- (ii) Prepare a cost statement showing overhead cost per unit for each product – 'A', 'B' and 'C' as per Activity based Costing.

**Answer**

**Please See:** Activity Based Costing (Chapter 5), Question 35 – Page 253, (RTP May 2018)

**Question 4(c) – 5 Marks**

(c) MNP Company Limited produces two products 'A' and 'B'. The relevant cost and sales data per unit of output is as follows:

Particulars	Product (A)	Product (B)
	₹	₹
Direct material	55	60
Direct labour	35	45
Variable factory overheads	40	20
Selling Price	180	175

The availability of machine hours is limited to 55,000 hours for the month. The monthly demand for product 'A' and product 'B' is 5,000 units and 6,000 units, respectively. The fixed expenses of the company are ₹ 1,40,000 per month. Variable factory overheads are ₹ 4 per machine hour. The company can produce both products according to the market demand.

**Required:**

Calculate the product mix that generates maximum profit for the company in the given situation and also calculate profit of the company.

**Answer**

**Please See:** Marginal Costing (Chapter 14), Question 87 – Page 774, (November 2020 – 5 Marks)

**Question 5(a) – 10 Marks**

NC Limited uses a standard costing system for the manufacturing of its product 'X'. The following information is available for the last week of the month :

- 25,000 kg of raw material were actually purchased for ₹ 3,12,500. The expected output is 8 units of product 'X' from each one kg of raw material. There is no opening and closing inventories. The material price variance and material cost variance, as per cost records, are ₹ 12,500 (F) and ₹ 1800 (A), respectively.
- The standard time to produce a batch of 10 units of product 'X' is 15 minutes. The standard wage rate per labour hour is ₹ 50. The company employs 125 workers in two categories, skilled and semi-skilled, in a ratio of 60:40. The hourly wages actually paid were ₹ 50 per hour for skilled workers and ₹ 40 per hour for semi-skilled workers. The weekly working hours are 40 hours per worker. Standard wage rate is the same for skilled and semi-skilled workers.

The monthly fixed overheads are budgeted at ₹ 76,480. Overheads are evenly distributed throughout the month and assume 4 weeks in a month. In the last week of the month, the actual fixed overhead expenses were ₹ 19,500.

**Required:**

- Calculate the standard price per kg and the standard quantity of raw material.
- Calculate the material usage variance, labour cost variance, and labour efficiency variance.
- Calculate the fixed overhead cost variance, the fixed overhead expenditure variance and the fixed overhead volume variance.

**Note:** Indicate the nature of variance, i.e., Favourable or Adverse.

**Answer**

**Please See:** Standard Costing (Chapter 13), Question 54 – Page 689, (MTP October 2018)

**Question 5(b) – 5 Marks**

The following information has been obtained from financial accounting and cost accounting records.

	Financial Accounting	Cost Accounting
	₹	₹
(i) Factory Overhead	94,750	90,000
(ii) Administrative Overhead	60,000	57,000
(iii) Selling Overhead	55,000	61,500
(iv) Opening Stock	17,500	22,500
(v) Closing Stock	12,500	15,000

**Required:**

Indicate under-recovery and over-recovery and their effects on cost accounting profit.

[Note: You are not required to prepare reconciliation statement.]

**Answer**

**Please See:** Cost Accounting Systems (Chapter 7), Question 11 – Page 331 (November 2010)

**Question 5(c) – 5 Marks**

How does the high employee turnover increase the cost of production? Explain.

**Answer**

**Please See:** Labour (Chapter 3), Question 13 – Page 102 (May 2011 – 4 Marks)

**Question 6(a) – 5x4 Marks = 20**

Define cost objects and give examples of any four costs objects

**Answer**

**Please See:** Introduction to CMA (Chapter 1), Newly added question

**Question 6(b)**

Explain what is meant by Practical capacity and Normal capacity. How is normal capacity determined?

**Answer**

**Please See:** Overheads (Chapter 4), Question 67 – Page 246, (November 2008)

**Question 6(c)**

What is meant by Activity Based Management (ABM) and discuss how Activity Based Management can be used in the business?

**Answer**

**Please See:** Activity Based Costing (Chapter 5), Newly added question

**Question 6(d)**

Suggest any one basis of re-apportionment of service department overheads over production departments in the following instances:

<i>Cost of Services Department</i>	<i>Basis</i>
(i) Maintenance and Repair Shop	
(ii) Hospital and Dispensary	
(iii) Fire Protection	
(iv) Stores Department	
(v) Transport Department	
(vi) Computer Section	
(vii) Power House (Electric Power Cost)	
(viii) Inspection	
(ix) Tool Room	
(x) Time-keeping	

**Answer**

**Please See:** Overheads (Chapter 4), Question 4 – Page 167, (November 2004)

**Question 6(e)**

How will you treat normal loss, abnormal loss and abnormal gain in process costing? Explain.

**Answer**

**Please See:** Process & Operation costing (Chapter 10), Based on basic understanding of Normal Loss, Abnormal Loss, and Abnormal Gain

# Cost and Management Accounting

## November 2022 Paper

Total No. of Questions 6

Total No. of Printed Pages 32

Time Allowed – 3 Hours

Maximum Marks 40

Answer to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate who has not opted for Hindi Medium, his/her answers in Hindi will not be valued.

Question No. 1 is compulsory.

Answer any four questions from the remaining five questions.

Working notes should form part of the answers.

### Question 1(a) – 5 Marks

1. Answer the following :

- (a) A Ltd. is a pharmaceutical company which produces vaccines for diseases like Monkey Pox, Covid-19 and Chickenpox. A distributor has given an order for 1,600 Monkey Pox Vaccines. The company can produce 80 vaccines at a time. To process a batch of 80 Monkey Pox Vaccines, the following costs would be incurred :

	₹
Direct Materials	— 4,250
Direct wages	— 500
Lab set-up cost	— 1,400

The Production Overheads are absorbed at a rate of 20% of direct wages and 20% of total production cost is charged in each batch for Selling, distribution and administration Overheads. The company is willing to earn profit of 25% on sales value.

You are required to determine:

- (i) Total Sales value for 1,600 Monkey Pox Vaccines
- (ii) Selling price per unit of the Vaccine.

**Solution:**

#### Computation of Sales value:

Particulars	Amount (₹)
Direct materials (4,250 × 20 batches)	85,000
Direct wages (500 × 20 batches)	10,000
Labour set up cost (1,400 × 20 batches)	28,000
Production overheads [20% × 10,000]	2,000
<b>Cost of Production</b>	<b>1,25,000</b>
Selling and administration overheads [20% × 1,25,000]	25,000
<b>Cost of sales</b>	<b>1,50,000</b>
Profit mark-up @ 33.33% on cost	50,000
<b>Sales Value</b>	<b>2,00,000</b>
<b>Selling price per unit [2,00,000/1,600]</b>	<b>125</b>

### Question 1(b) – 5 Marks

- (b) ABC Bank is having a branch which is engaged in processing of 'Vehicle Loan' and 'Education Loan' applications in addition to other services to customers. 30% of the overhead costs of the branch are

estimated to be applicable to the processing of 'Vehicle Loan' applications and 'Education Loan' applications each.

Branch is having four employees at a monthly salary' of ₹ 50,000 each, exclusively for processing of Vehicle Loan applications and two employees at a monthly salary of ₹ 70,000 each, exclusively for processing of Education Loan applications.

In addition to above, following expenses are incurred by the Branch :

- Branch Manager who supervises all the activities of branch, is paid at ₹ 90,000 per month.
- Legal charges, Printing & stationery and Advertising Expenses are incurred at ₹ 30,000, ₹ 12,000 and ₹ 18,000 respectively for a month.
- Other Expenses are ₹ 10,000 per month.

You are required to :

- Compute the cost of processing a Vehicle Loan Application on the assumption that 496 Vehicle Loan applications are processed each month.
- Find out the number of Education Loan Applications processed, if the total processing cost per Education Loan Application is same as in the Vehicle Loan Application as computed in (i) above.

**Solution:**

**Computation of cost:**

Particulars	Vehicle Loan	Education Loan
Salary [4 × 50,000] [2 × 70,000]	2,00,000	1,40,000
Supervision cost [90,000 × 60%]/2	27,000	27,000
Legal charges etc. [60,000 × 60%]/2	18,000	18,000
Other expenses [10,000 × 60%]/2	3,000	3,000
<b>Total costs</b>	<b>2,48,000</b>	<b>1,88,000</b>
<b>No. of applications processed</b>	<b>496</b>	<b>376</b> [1,88,000/500]
<b>Cost of processing 1 application</b>	<b>500</b> [2,48,000/496]	<b>500</b> [Given]

**Question 1(c) – 5 Marks**

- (c) MM Ltd. uses 7500 valves per month which is purchased at a price of ₹ 1.50 per unit. The carrying cost is estimated to be 20% of average inventory investment on an annual basis. The cost to place an order and getting the delivery is ₹ 15. It takes a period of 1.5 months to receive a delivery from the date of placing an order and a safety stock of 3200 valves is desired.

You are required to determine:

- The Economic Order Quantity (EOQ) and the frequency of orders.
- The re-order point.
- The Economic Order Quantity (EOQ) if the valve costs ₹ 4.50 each instead of ₹ 1.50 each (Assume a year consists of 360 days)

**Solution:**

Similar to Question 35 - November 2020 Examination

**Question 1(d) – 5 Marks**

- (d) ABC Ltd. sells its Product 'Y' at a price of ₹ 300 per unit and its variable cost is ₹ 180 per unit. The fixed costs are ₹ 16,80,000 per year uniformly incurred throughout the year. The Profit for the year is ₹ 7,20,000.

You are required to calculate:

- BEP in value (₹) and units,

AS - 4 – Contingencies & Events occurring after the Balance Sheet Date

- (ii) Margin of Safety
- (iii) Profits made when sales are 24,000 units,
- (iv) Sales in value (₹) to be made to earn a net profit of ₹ 10,00,000 for the year.

**Solution:**

Let us organise the data;

Selling price per unit	Rs. 300
Variable cost per unit	Rs. 180
<b>Contribution per unit</b>	<b>Rs. 120</b>
Fixed Cost	Rs. 16,80,000
Profit	Rs. 7,20,000

We can now compute the requirements of the question;

- (i)  $P/v \text{ ratio} = 120/300 \times 100 = 40\%$   
 $BES = \text{Fixed cost}/P/v \text{ ratio} = 7,20,000/40\% = \text{Rs. 18 lacs or 6,000 units.}$
- (ii)  $\text{No. of units} = \text{Contribution}/\text{Contribution per unit}$   
 $= 16,80,000 + 7,20,000/120 = 20,000 \text{ units}$   
 Thus,  
 $MOS = \text{Sales} - BE \text{ Sales} = (20,000 \times 300) - 18 \text{ lacs} = \text{Rs. 42 lacs.}$
- (iii) Computation of profit:  
 $= 24,000 \times 120 - 16,80,000 = \text{Rs. 12 lacs.}$
- (iv)  $\text{Sales} = 16,80,000 + 10,00,000/120 = 22,333 \text{ units.}$

**Question 2(a) – 10 Marks**

2. (a) USP Ltd. is the manufacturer of 'double grip motorcycle tyres'. In the manufacturing process, it undertakes three different jobs namely, Vulcanising, Brushing and Striping. All of these jobs require the use of a special machine and also the aid of a robot when necessary. The robot is hired from outside and the hire charges paid for every six months is ₹ 2,70,000. An estimate of overhead expenses relating to the special machine is given below :
- Rent for a quarter is ₹ 18,000.
  - The cost of the special machine is ₹ 19,20,000 and depreciation is charged @ 10% per annum on straight line basis.
  - Other indirect expenses are recovered at 20% of direct wages.

The factory manager has informed that in the coming year, the total direct wages will be ₹ 12,00,000 which will be incurred evenly throughout the year.

During the first month of operation, the following details are available from the job book :

Number of hours the special machine was used

Jobs	Without the aid of the robot	With the aid of the robot
Vulcanising	500	400
Brushing	1000	400
Striping	—	1200

You are required to :

- (i) Compute the Machine Hour Rate for the company as a whole for a month (A) when the robot is used and (B) when the robot is not used.
- (ii) Compute the Machine Hour Rate for the individual jobs i.e. Vulcanising, Brushing and Striping.

**Solution:**

Similar to Question 53 – Past Examination Problem

**Question 2(b) – 6 Marks**

- (b) A skilled worker, in PK Ltd., is paid a guaranteed wage rate of ₹ 15.00 per hour in a 48-hour week. The standard time to produce a unit is 18 minutes. During a week, a skilled worker- Mr. 'A' has produced 200 units of the product. The Company has taken a drive for cost reduction and wants to reduce its labour cost.

You are required to:

- (i) Calculate wages of Mr. 'A' under each of the following methods :
  - A. Time rate,
  - B. Piece-rate with a guaranteed weekly wage,
  - C. Halsey Premium Plan
  - D. Rowan Premium Plan
- (ii) Suggest which bonus plan i.e. Halsey Premium Plan or Rowan Premium Plan, the company should follow.

**Solution:**

Similar to Question 27 – Past Examination Problem

**Question 2(c) – 4 Marks**

- (c) XYZ Ltd. is engaged in manufacturing two products- Express Coffee 4 and Instant Coffee. It furnishes the following data for a year:

Product	Actual Output (units)	Total Machine hours	Total Number of Purchase orders	Total Number of set ups
Express Coffee	5,000	20,000	160	20
Instant Coffee	60,000	1,20,000	384	44

The annual overheads are as under :

Particulars	?
Machine Processing costs	7,00,000
Set up related costs	7,68,000
Purchase related costs	6,80,000

You are required to :

- (i) Compute the costs allocated to each product - Express Coffee and Instant Coffee from each activity on the basis of Activity- Based Costing (ABC) method.
- (ii) Find out the Overhead cost per unit of each product- Express coffee and Instant coffee based on (i) above.

**Solution:**

The cost drivers and rates for these overheads are detailed below:

Particulars	Cost driver	Rate
Machine processing costs	Machine hours	$7,00,000/1,40,000 = 5$
Set up related costs	No. of set ups	$7,68,000/64 = 12,000$
Purchase related costs	No. of purchase orders	$6,80,000/544 = 1,250$

**Computation of cost and cost per unit:**

Particulars	Express Coffee	Instant Coffee
Units	5,000	60,000
Machine processing costs	1,00,000 [5 x 20,000]	6,00,000 [5 x 1,20,000]
Set up related costs	2,40,000 [12,000 x 20]	5,28,000 [12,000 x 44]
Purchase related costs	2,00,000 [1,250 x 160]	4,80,000 [1,250 x 384]
<b>Total cost</b>	<b>5,40,000</b>	<b>16,08,000</b>
<b>Cost per unit</b>	<b>108</b>	<b>26.80</b>

**Question 3(a) – 10 Marks**

3. (a) XYZ Construction Ltd. has obtained a contract of ₹ 25,00,000 in the Financial Year 2021-22. The work on the contract commenced immediately and it is expected that the contract will be