MMPC-004

MBA and MBA (Banking & Finance)

MMPC-004: ACCOUNTING FOR MANAGERS

ASSIGNMENT

For

July 2021 and January 2022 Sessions

(Last date of submission for July 2021 Session is 30th November 2021 and for January 2022 Session is 30th April 2022).

School of Management Studies
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI – 110 068

ASSIGNMENT

Course Code	**:**	**MMPC-004**
Course Title	**:**	**Accounting for Managers**
Assignement Code	**:**	**MMPC-004/TMA/ 2021-22**
Coverage	**:**	**All Blocks**

Note: Attempt all questions and submit this assignment to the coordinator of your study centre. ***Last date of submission for July 2021 Session is 30th November 2021 and for January 2022 Session is 30th April 2022.***

Q 1. From the following Trial Balance prepare Trading and Profit and Loss Account for the year ended 31st December, 2020 and Balance Sheet as on that date:

	Dr. (Rs.)	Cr. (Rs.)
Drawings	10,000	---
Stock on 01/01/2019	46,000	---
Purchases and Purchases Returns	1,50,200	600
Cash in Hand	3,400	---
Bank Balance	22,660	---
Freehold Premises	38,600	---
Trade Expenses	840	---
Printing, stationery and Advertising	1,640	---
Professional Charges	280	---
Commission Received	--	3,300
Investments as on 1st Jan. @ 10%	4,000	---
Interest on above	--	200
Sundry Debtors and Creditors	36,000	29,000
Wages	25,000	---
Salaries	14,000	---
Capital	--	1,14,000
Income Tax	1,600	---
Discount allowed and received	6,300	4,600
Sales Returns and Sales	550	2,08,950
Bills Receivable /Bills Payable	3,200	10,000
Office furniture	3,050	---
Rent, Rates and Insurance	4,000	---
Bad Debts Provisions	--	670
Total	3,71,320	3,71,320

Adjustments:

(a) Provide for wages Rs. 5,000.

(b) Write Off 5% depreciation on freehold premises and 10% on office furniture.

(c) Insurance to the extent of Rs. 200 relates to 2021.

(d) Stock on 31.12.2020 is Rs. 5,20,00.

(e) Charge interest on capital 5% and on drawings Rs. 300.

(f) Further bad debts are Rs. 1,000.

(g) Provide for doubtful debts @ 5% on sundry debtors.

(h) Make provisions for discount on debtors and reserve for discount on creditors @2%.

Q2. What is activity based costing (ABC)? How product costs are determined in ABC? Discuss the benefits of ABC.

Q3. What is variance? Explain the need for variance control and discuss the importance of variance control in operational and management control.

Q4. From the following information presented by a firm for the year ended 31st December, prepare the Balance Sheet:

Sales to Net Worth	5 Times
Current Liabilities to Net Worth	50%
Total Debts to Net Worth	60%
Fixed Assets to Net Worth	60%
Current Ratio	2
Sales to Stock	10Times
Debtor's Velocity	9 Times
Annual Sales	Rs. 15,00,000
Cash Sales	40% of Sales

Q5. What is Forensic Accounting? Explain the method of fraud detection and discuss the techniques used for forensic audit.

MMPC-004:

ACCOUNTING FOR MANAGERS

For July 2021 and January 2022 Sessions

Q2-What is activity based costing (ABC)? How product costs are determined in ABC? Discuss the benefits of ABC.

Ans- Activity based costing (ABC) -Activity-Based Costing (ABC) is a system of costing, where costs are first traced to activities and then to products. This costing system works with an assumption that activities are responsible for the incurrence of costs. As stated earlier, costs are charged to products based on the individual product's use for each activity. ABC is an approach to costing and does monitoring of activities. It involves tracing resource consumption and then costing of final outputs. In this, resources are assigned to activities and then activities to cost objects based on consumption estimates. It utilises cost drivers to attach activity costs to outputs.

BENEFITS OF ACTIVITY BASED COSTING(ABC)

1. Decision making is one of the significant functions performed by managers. They may adapt the traditional costing system, which may contain errors in costing due to apportionment and absorption techniques. Here, ABC improves the decision-making process by providing correct and relevant product cost data.

2. Multiple cost drivers are used in ABC that are transaction-based than product-based. Cost drivers and rates may also help in the scheming of new products or existing products.

3. ABC follows all activities even outside the factory premises to calculate more overheads. For example, besides the product costs, it touches costs to managerial activities, processes etc.

4. ABC focuses on the cause and effect relationship in costing. This is to bring accuracy and reliability in cost determination. These are the products that are said to have consumed activities.

5. Due to ABC, costs as per activities become visible and more apparent. It can identify actions not adding value to the product. Managers may put more control over the activities and can control fixed overhead costs created by those activities.

OBJECTIVES OF ACTIVITY BASED COSTING (ABC)

Some objectives of ABC are listed as under:

- To recognise several activities in the process of production, including the activities that add value.
- To eliminate the non value-adding activities.
- To put emphasis on the high-cost activities
- To incorporate activities based on distribution overheads.

• To help in decision-making process in the identification of a suitable price of product and services.
• To ensure accurate and precise cost determination of products and services.

• To find options to improve the process and reduction of costs.

How product costs are determined in ABC

Suraj Enterprise has decided to use Activity based costing (ABC) method based on the following activities:

Activity	Annual cost driver	Cost (Rs.)	Cost driver
Machine	40,000 hours	10,00,000	600 hours
Labour	Rs.6,00,000	60,000	Rs.14,000
Setup	20,000 hours	2,00,000	150 hours
Production order	4000 orders	4,00,000	10 orders
Material handling	2000 requisitions	40,000	6 requisitions
Parts administration	24,000 parts	9,60,000	40 parts

... All factory overhead costs to products are based on 300% of direct labour cost.

... Compare the total annual costs of the product using both the traditional and ABC system.

Solution

Cost system		Pool rate	Cost driver Consumption	Cost Assignment
Traditional cost		300%	Rs.14,000	42,000
ABCSystem:				
(i)	Labour	10%	Rs.14,000	1,400
(ii)	Machine	Rs.25 per hour	600 hours	15,000
(iii)	Setup	Rs.10 per hour	150 hours	1,500
(iv)	Production order	Rs.100 per order	10 orders	1,000
(v)	Material handling	Rs.20 per	6 requisitions	120
(vi)	Parts	Rs.40 per part	40 parts	1600
				Rs 20,620

The total cost of the product under ABC is Rs 24,620, whereas under the traditional cost system, it is Rs. 42,000.

Another description of Activity-based costing is that Activity-based costing (ABC) is a two-stage product costing method that assigns indirect costs and overheads to products and services. Some indirect costs are difficult to assign to a product. As it recognises the relationship between overheads and manufactured products, it assigns indirect costs to products. The assignment is less arbitrarily than traditional costing methods. Limitations of the traditional costing system gave way for the development of ABC. The traditional system segregates costs into fixed and variable. As the business grows, the costs become more complex. Then the traditional method may not be appropriate for making complex decisions related to production and developing product strategies. The traditional methods facilitate financial reporting and primarily put prominence on calculating overhead rates for the valuation of stocks. It was seen that the traditional absorption costing approach could not go well with multi-product scenarios, so a change was in line. In fact, multiple-products scenarios or product diversification require accurate product cost ascertainment due to increasing market competition within the country and internationally.

Q3 What is variance? Explain the need for variance control and discuss the importance of variance control in operational and management control.

ANS - What is variance

Variance is the difference between budgeted and the actual level of activity. Since, as explained earlier, the profitability of a business depends both on costs and sales, it is important to analyse both cost and sales variance.

Cost variance is the difference between 'what should have been the cost' (popularly termed as standard cost) and 'what has been the cost' (i.e. actual cost). If the actual costs are less than the standard cost, the variance is termed as 'favourable'. However, if the actual cost is more than the standard costs, variance is termed as'adverse' or 'unfavourable'.

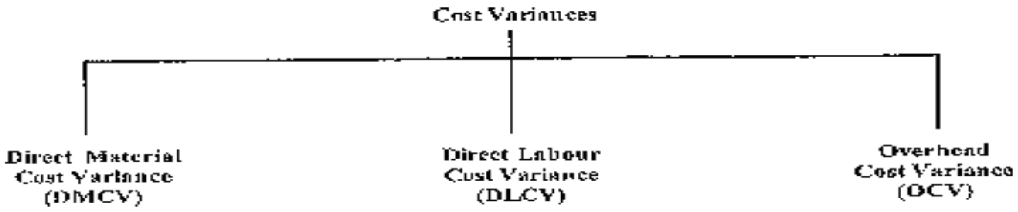
Sales variance is the difference between `what should have been the sales' (popularly) termed as Budgeted sales) and `what have been the sales ` (i.e. the actual sales). If the actual sales amount is more than the budgeted sales, the variance is termed as 'favourable'. However, if the actual sales amount is less than the budgeted sales, the variance is termed as 'adverse' or 'unfavourable'.

Thus, variances may be classified into two categories:

In the following sections, we will explain both the above types of variances in detail.

COST VARIANCES

Cost variances can be put in the following chart:



Direct expenses constitute an insignificant portion of the total cost of the product. Hence, direct expense variance is generally not calculated. Suppose it is desired to calculate the direct expense variance. In that case, it can be computed in the same way as the variable overhead variance is calculated, since in most cases direct expenses are variable.

At this point, however, we suggest that you have a look at Exhibit - given towards the end of this unit, which presents a bird's eye view of all the variances discussed in this unit and their interrelationships. Whenever you are in doubt, a reference to this Exhibit may prove helpful.

In the course of the discussion in this unit, you will find that abbreviations for different variances have been used. For your facility, we present below a list of all such abbreviations together with the full names of the variances.

Abbreviations for Different Variances

DMCV	-	Direct Material Cost Variance
DMPV	-	Direct Material Price Variance
DLCV	-	Direct Labour Cost Variance
DLRV	-	Direct Labour Rate Variance
DLEV	-	Direct LabourEfficiency
Variance OCV	-	Overhead Cost Variance
VOCV	-	Variable Overhead Cost Variance
FOCV	-	Fixed Overhead Cost Variance
FOEXPV	-	Fixed Overhead Expenditure Variance
FOVV	-	Fixed Overhead Volume Variance
SVV	-	Sales Value Variance
SPV	-	Sales Price Variance
SVOLV	-	Sales Volume Variance

Need for variance control After the variance have been computed and analysed, the next logical step for the management is to trace the responsibility for the variances to particular individuals or departments. The Management/Cost Accountant may be required to prepare the necessary report for this purpose. The report submitted to the management should clearly indicate where action is required. Based on this report, the management will try to identify the specific individuals for adverse controllable variances, which being within their control could have been avoided. It was earlier mentioned that certain factors, such as changes in market conditions, demand and supply position, etc. are beyond the control of managers. Hence, action to pinpoint the responsibility of such uncontrollable variances is not called for. In case of controllable variances, the responsibility

could be traced as

shown below to the different departments for different variances.

Variance		Department to be held responsible
Materials		
Price		Purchasing Department
Quantity or Grade		Stores, Purchase or Process Department as the case may be.
Waste, scrap or spoilage		Production Department (for lack of proper supervision)
Wages		
Rate —	For difference in rates for work requiring higher rates of pay	Personnel Department Production Department
Time —	lack of proper supervision	Production Department
Overheads		
Volume		Sales Department
Efficiency		Production Department
Expenditure:		
higher rates of indirect workers		Personnel Department
higher prices of indirect materials		Purchasing Department
higher consumption of indirect materials		Production Department
Excessive expenditure in factory		Production Department
Excessive expenditure for selling and distribution		Selling Department
Sales		
Price and Volume		Selling Department

It may be noted that variance analysis would not help in achieving the desired objective of minimising costs, unless managerial action is prompt and in the right direction. The direction, of course, shall be indicated by the analysis of variances, but it is the executive side which would be responsible for taking immediate action, exercising proper control, having a close watch over operations, etc., so that economies may be affected by inefficiencies minimised and performance improved. A continuous and rigorous effort in cost control would help the management achieve the goal of standard costing.

Importance of variance control in operational and management control

Variance refers to the difference between the standard (or budgeted performance) and actual performance. Variance analysis is mainly concerned with ascertaining the quantum of variances and the analysis of the causes responsible for such variances. In the case of cost variance, if the actual cost is more than the standard cost, it is termed as an adverse variance. While in the case of sales variances, if the actual amount of sales is more than the budgeted sales, it is termed as a favourable variance. Variance reports have to be submitted to the management from time to time. These reports contain details regarding the budgeted/standard performance, actual performance, the

quantum of variances and the departments/executives responsible for adverse variances. On the basis of these reports, the management can fix the responsibilities on the executives for controllable variances and takes necessary steps so that such variances do not occur in future. For variances caused by uncontrollable factors, management should try its best to minimise the effect of such factors or revise budgeted/standard performance, if necessary.

Q5 What is Forensic Accounting? Explain the method of fraud detection and discuss the techniques used for forensic audit.

ANS – Forensic Accounting

Forensic accounting utilizes accounting, auditing, and investigative skills to conduct an examination into the finances of an individual or business. Forensic accounting provides an accounting analysis suitable to be used in legal proceedings. Forensic accountants are trained to look beyond the numbers and deal with the business reality of a situation. Forensic accounting is frequently used in fraud and embezzlement cases to explain the nature of a financial crime in court.

Forensic accountants analyze, interpret, and summarize complex financial and business matters. They may be employed by insurance companies, banks, police forces, government agencies, or public accounting firms. Forensic accountants compile financial evidence, develop computer applications to manage the information collected, and communicate their findings in the form of reports or presentations.

Along with testifying in court, a forensic accountant may be asked to prepare visual aids to support trial evidence. For business investigations, forensic accounting entails the use of tracing funds, asset identification, asset recovery, and due diligence reviews. Forensic accountants may seek out additional training in alternative dispute resolution (ADR) due to their high level of involvement in legal issues and familiarity with the judicial system.

Method of fraud detection and techniques used for forensic audit.

METHODS O F FRAUD DETECTION

There are two main methods used to detect fraud which are supervised and unsupervised.

1. Supervised Method: In this method fraud detection is based on the dynamics of the previous frauds committed. This method makes use of prior data and information. The prior data and information also called labeled information consists of both genuine and fraudulent transactions. Based on prior data models are constructed and trained to discriminate between genuine and fraudulent transactions. The basic assumption of these models is that the pattern of past frauds is going to persist for the present and future also.

   Since this method is based on the fraud structure of the past events this method may not work due to over fitting to the training

dataset or unknown fraud types. The robustness of these methods also comes in question during extension, re-utilization and adaptation. For this system to be dynamically extendable and adjustable new information is to be fed into the model and retrained. Another drawback of this method is the uneven class size of legitimate and fraudulent transactions. The legitimate transactions outnumber the fraudulent transaction and according to some studies about 0.08 percent of observed transactions are fraudulent. Now if this method classifies all fraudulent transactions as genuine the error rate is going to be miniscule which can be misleading.

2. Unsupervised Methods: These methods are based on identification of outliers which are detected through data mining techniques. Change in behaviour and frequency of transaction is detected by suspicion scoring systems which are based on if-then type of outlier rules. These rules are based on experiential knowledge. When the pattern in data do not confirm to the expected pattern or some anomalous data pattern is detected it is an indication for further probe. The criteria to detect outliers are not a fixed one but may change for various reasons such as cost and efficiency. This method is similar to human's cognitive decision process, enabling the auditor's to understand the process and adjust the model if necessary.

   The results generated by the unsupervised method are not direct evidence of any fraud but they merely tell that the flagged transactions do not fit into the data pattern which may be either due to error or fraud.

FORENSIC AUDIT TECHNIQUES

A normal financial audit confirms that the financial statements give a true and fair picture of the state of affairs of the company and all cable laws and accounting policies and complied with. During the course of audit auditors may come across transactions which are not normal in nature or are not backed with sufficient documentary evidences. To investigate these anomalies forensic audit is done. Some of the techniques involved in forensic auditing to examine the frauds are:

1. Testing Internal Controls: Most of the organisations have internal controls in place but there are certain weak links which are exploited by the fraudsters to commit fraud. A good initial forensic auditing technique is to understand and analyse the internal controls of organisation and find possible ways to circumvent the controls. This will give a fair idea to the auditor of the possible path of the fraudster.
2. Trend Analysis: Most of the companies grow at normal rate and the various transactions required to accomplish the business task also exhibit a certain trend. Sudden spikes and troughs in the

trend of these variables indicate something unusual and are worth investigating. During forensic investigation the auditor should review the organisations historical norms and analyse the outlier events in context of historical norms.

3. Digital Forensic Examination: Digital forensic examination is one of the most important techniques for fraud investigation as the digital trails are difficult to cover up and manipulate. A close scrutiny of phone logs, official emails, accounting records and company databases will uncover many hidden facts. Digital forensic examination is quite a compel job and may require assistance of computer and database specialists to assist the accounting and financial auditor.

4. Face to Face Interview: It is always a good idea to understand organisational dynamics and the process dynamics before undertaking forensic audit. Face to face interview with the executives and managers is an effective tool to accomplish this. The information provided by them can direct the audit in the right direction as most of them would have information about the event and have a perspective of the event without being directly connected to the event/ fraud.

5. Full Financial Audit: Before commencing forensic audit it is important to conduct full financial and accounting audit which involves bank statement reconciliations, scrutiny of vendor contracts and payment, verification of sales and purchase, review of tax returns and other filings with the public authorities. The findings of the financial audit gives lead to forensic auditors to identify suspicious transactions and trace back them to potential perpetrators.

6. Application of Benford's Law: Benford's law is a mathematical tool to determine whether variable under study (suspicious transactions) is a case of unintentional error or fraud. The basic premise on which this law operates is that fabricated figures (indicator of fraud) posses a different pattern from random figures which are generated from normal business transactions.

   Once a series of transactions is identified as suspected transactions the left most digit of the figure is extracted of all transactions of that particular variable and summarized for the entire population. Next the observed count percentage of the left most digit is calculated and then the Benford's set is applied to carry out a parametric test know as Z test which is used to determine whether two population means are different when the variances are known and the sample size is large. Here the two population sets are Benford's percentage numbers for first digit and observed numbers for first digit.

   If the observed data confirms to the percentage of Benford's law it implies that the observed data is Benford set and there is 68%

chance of no error or fraud. Similar sets had been developed by Benford for 2, 3 and last digit as well.

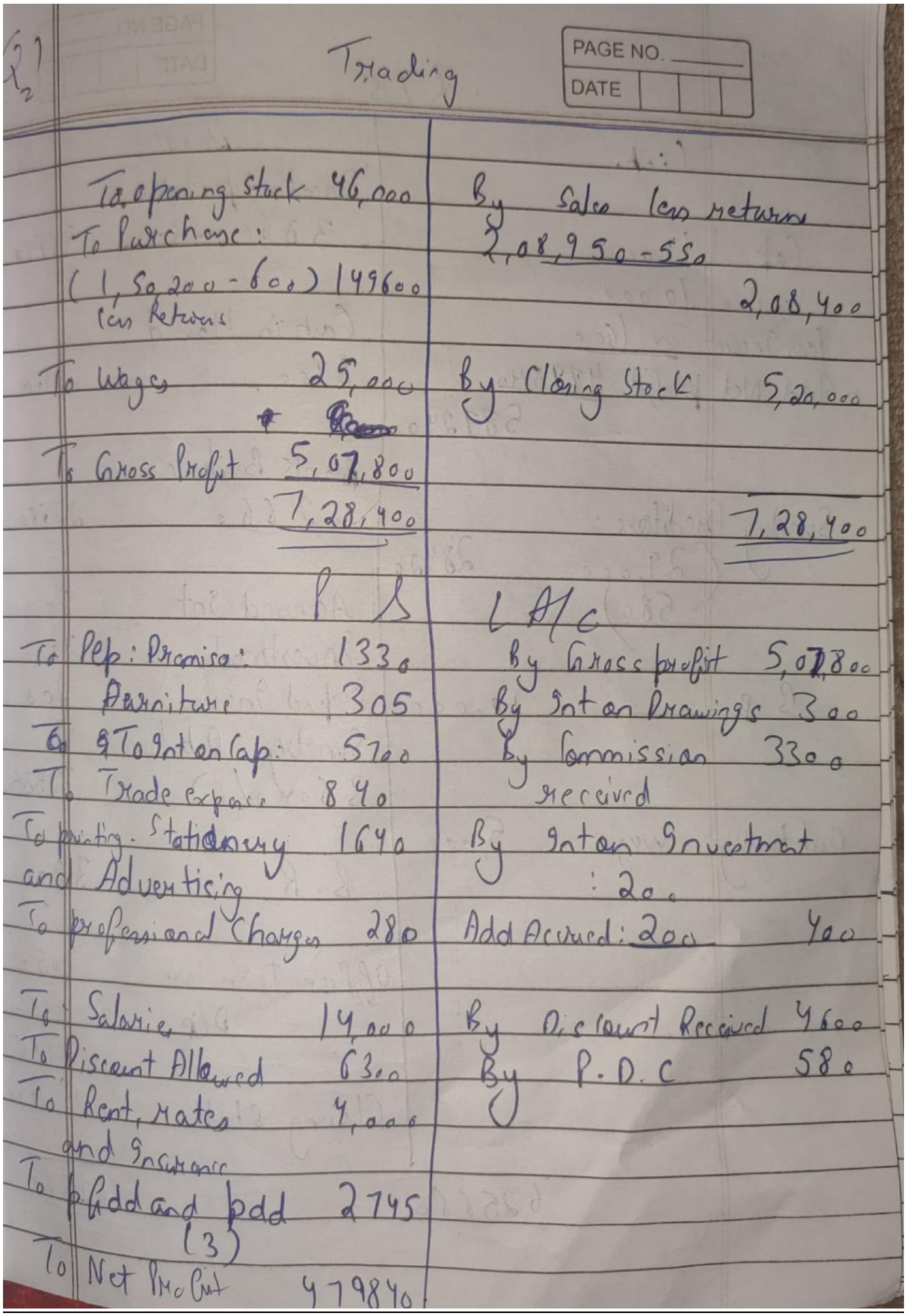
This method can be used for analysis of credit card transactions, purchase orders, loan sanctioning authority to sanction loans below Rs. 5,00,000 and any amount above that has to be referred to circle office. Looking just below the approval threshold provides a potential to discover loan fraud. If the loan fraud is being perpetuated it would be interesting to observe first figure 4 and first two figures 49 and their repeated occurrence may signal potential fraud. Taking another example where any purchase above Rs. 35,000 would require purchase order. Here too looking at the first figure 3 and second figure 4 can reveal any anomalies, manipulations or fraud involving this cutoff.

7. Theory of Relative Size Factor (RSF): The application of this theory can highlight unusual fluctuations in the data series under observation and these unusual fluctuations then can be further analysed to determine whether unusual fluctuation is genuine error or fraud. RSF is the ratio of the largest number to the second largest number in the data series. In practice there exist certain limits for each of entity such as vendors, customers and employees. These limits may be pre defined based on historical data or may be derived from the available data. Based on these limits stray cases that are way beyond the normal range shall be investigated further for detection of anomalies or outliers. The values that fall outside the pre defined range are suspected to be either fraud or error. These values needs to be correlated with other variables to find the relationship and classify them as either error or fraud
8. Computer Assisted Auditing Tools: These audit tools (software's) are designed to access data of audit significance from client's information system without depending on the client's accounting personnel. Since these are automated tools the chances of data manipulation are minimal until and unless the information system itself is feeded with manipulated data. These tools are capable of :
   - Testing details of transactions and balances
   - Identifying inconsistencies or significant fluctuations
   - Testing general as well as application controls of computer systems(Data security and integrity)
   - Extracting sample data for audit verification
   - Re calculation of calculations done by clients computer
9. Data Analysis Ratios: Financial ratios indicate about the financial health of a company similarly data analysis ratios for key numeric fields provides an indication of the fraud health by analysing and identifying possible symptoms of fraud. Commonly used ratios are
   - The ratio of highest value to the lowest value
   - The ratio of the highest to second highest value
   - The ratio of the current year to previous year.

   The variables used in the ratio can be costs, production, volume of sales, labour hours, expenses under various heads etc.

10. BeneishRatios : These ratios are used to distinguish between fraudulent financial reports and nonmanipulated financial reports.The following ratios are used.
    - Days' sales in receivable index

Q1

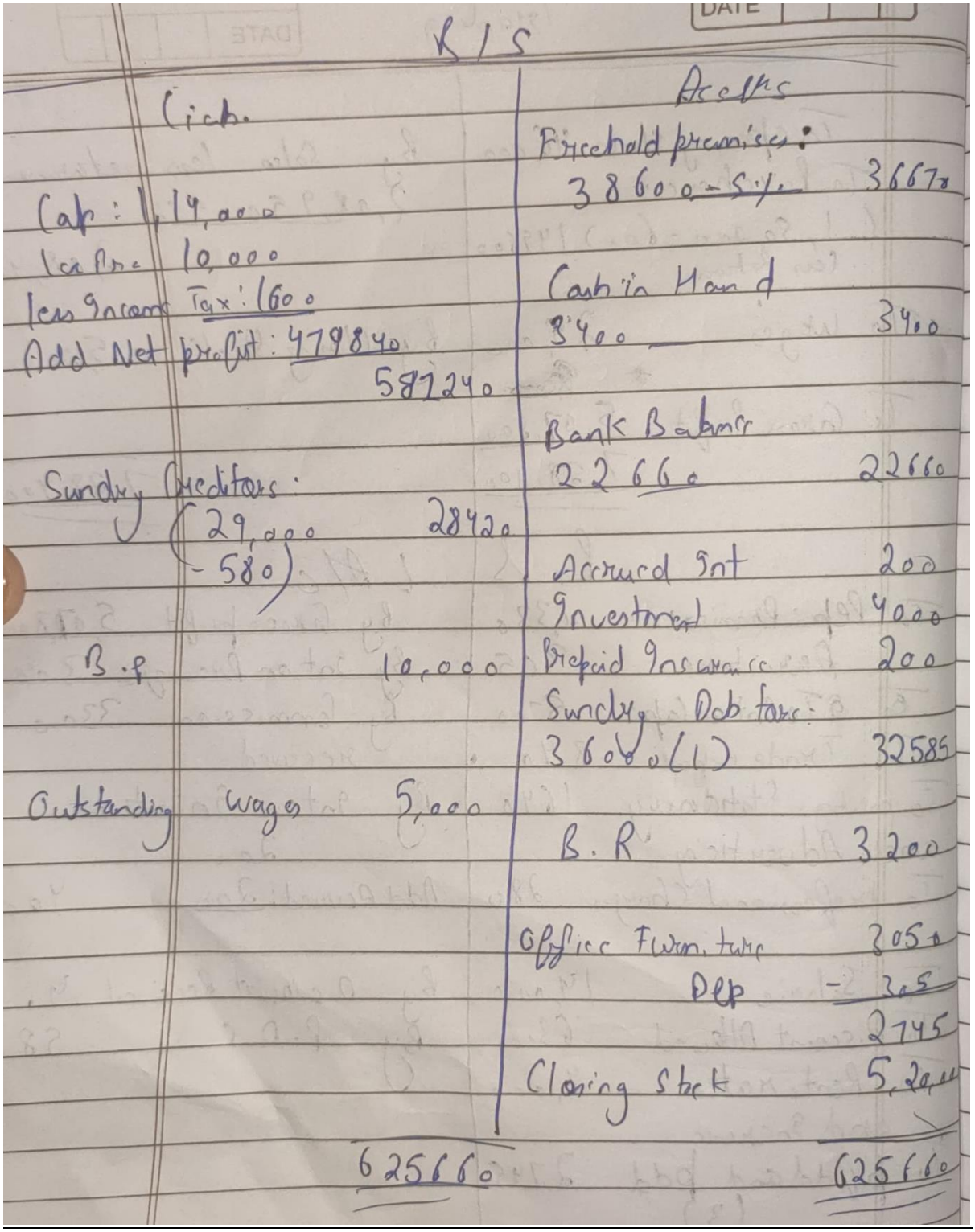


Trading

To opening stock	46,000	By Sales less returns 2,08,950 - 550	2,08,400
To Purchase: (1,50,200 - 600) 149600 less Returns			
To Wages	25,000	By Closing Stock	5,20,000
To Gross Profit	5,07,800		
	7,28,400		7,28,400

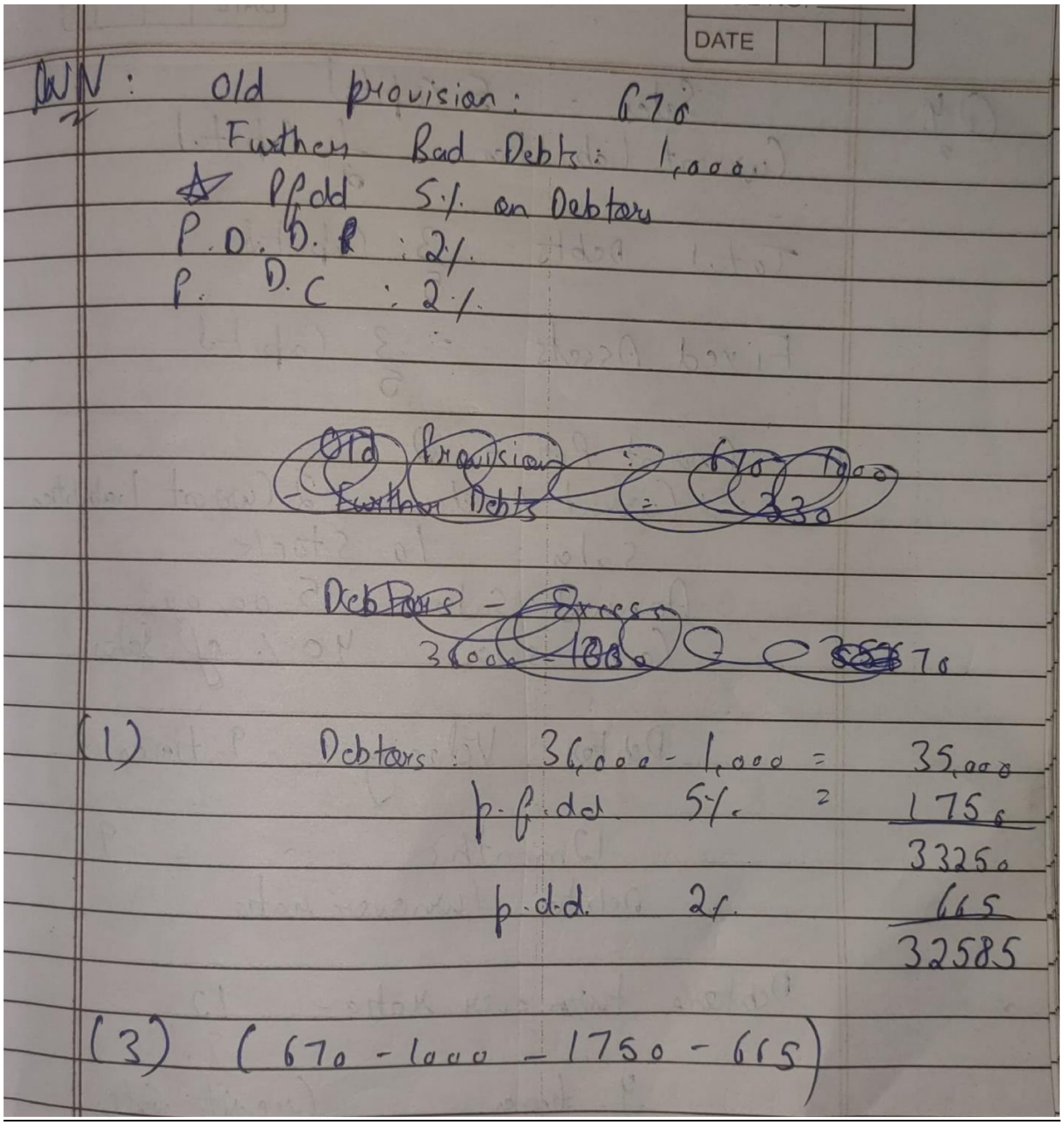
P & L A/c

To Rep: Premises:	130	By Gross profit	5,07,800
Furniture	305	By Int on Drawings	300
To To Int on Cap:	5700	By Commission received	3300
To Trade expense	840		
To printing Stationery and Advertising	1640	By Int on Investment : 20.	
To professional Charges	280	Add Accrued: 200	400
To Salaries	14,000	By Discount Received	4600
To Discount Allowed	630	By P.D.C	580
To Rent, rates and Insurance	4,000		
To Add and Add (3)	2745		
To Net Profit	479840		

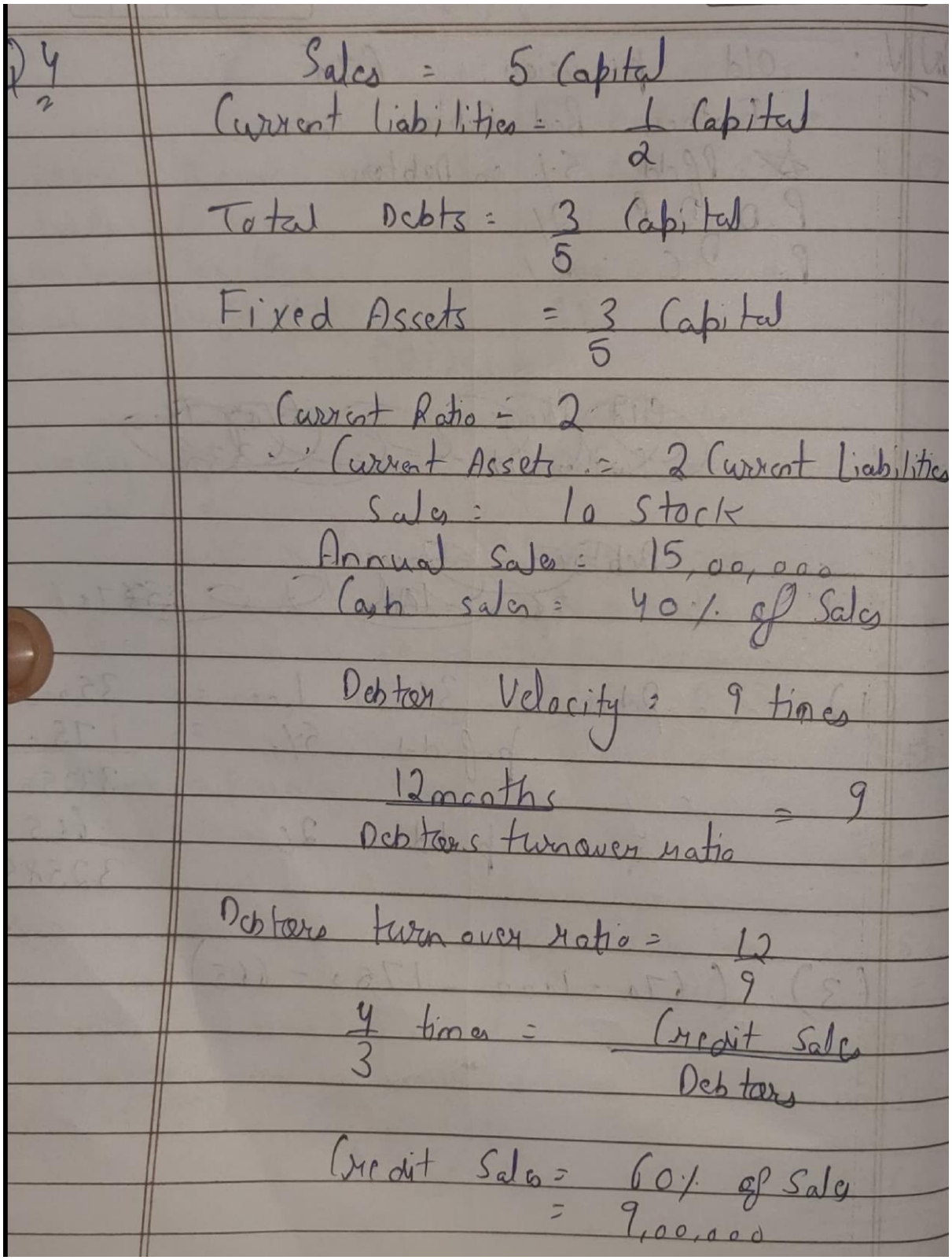


R / S

Liab.		Assets	
Cap:	14,000	Freehold premises:	
Loan Bk:	10,000	38600 - 5%	36670
less Income Tax:	1600		
Add Net profit:	47984	Cash in Hand	
	59240	3400	3400
		Bank Balance	
Sundry Creditors:		22660	22660
(29,000	28420		
- 580)		Accrued Int	200
		Investment	4000
B.P	10,000	Prepaid Insurance	200
		Sundry Debtors:	
		36000 (1)	32585
Outstanding Wages	5,000		
		B.R	3200
		Office Furniture	3050
		Dep	- 305
			2745
		Closing Stock	5,200
	625660		625660


DATE
WN: Old provision: 670
Further Bad Debts: 1,000
Pfdd 5% on Debtors
P.O.D.D: 2%
P.D.C: 2%
(1) Debtors: 36,000 - 1,000 = 35,000
p.f.dd 5% = 1750
3325
p.d.d. 2% 665
32585
(3) (670 - 1000 - 1750 - 665)

Q4



Sales = 5 Capital

Current liabilities = $\frac{1}{2}$ Capital

Total Debts = $\frac{3}{5}$ Capital

Fixed Assets = $\frac{3}{5}$ Capital

Current Ratio = 2

∴ Current Assets = 2 Current Liabilities

Sales : Io Stock

Annual Sales : 15,00,000

Cash sales = 40% of Sales

Debtor Velocity : 9 times

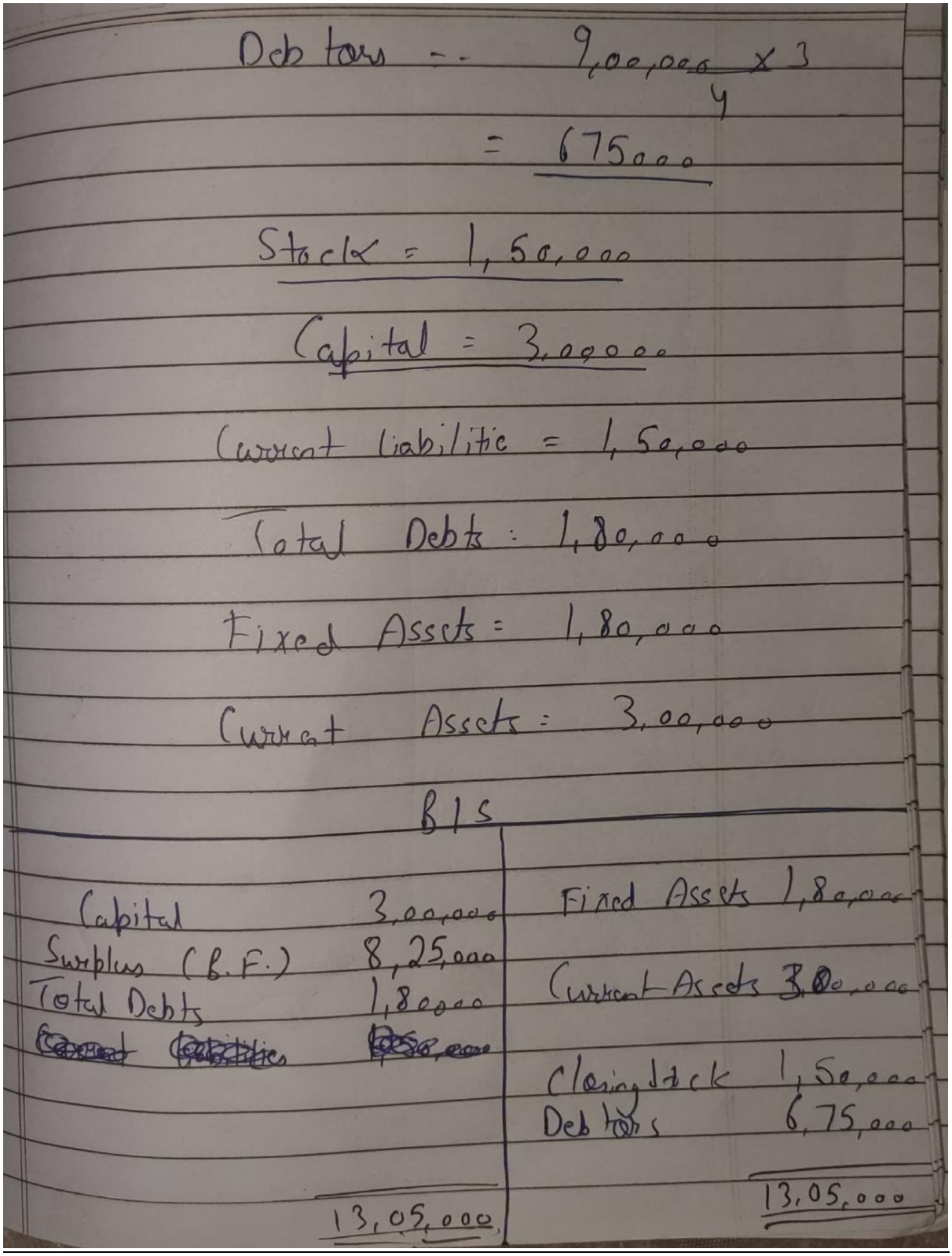
$\frac{12 \text{ months}}{\text{Debtors turnover ratio}} = 9$

Debtors turnover ratio = $\frac{12}{9}$

$\frac{4}{3}$ times = $\frac{\text{Credit Sales}}{\text{Debtors}}$

Credit Sales = 60% of Sales

= 9,00,000



Debtors = 9,00,000 × 3/4

= 675000

Stock = 1,50,000

Capital = 3,00,000

Current liabilities = 1,50,000

Total Debts : 1,80,000

Fixed Assets = 1,80,000

Current Assets : 3,00,000

B/S

Capital	3,00,000	Fixed Assets	1,80,000
Surplus (B.F.)	8,25,000	Current Assets	3,00,000
Total Debts	1,80,000		
~~Current Liabilities~~	~~1,50,000~~	Closing Stock	1,50,000
		Debtors	6,75,000
	13,05,000		13,05,000