

Accounting Equation

Accounting Equation

Dr. Monica Shrivastava

Accounting Equation

MEANING OF AN ACCOUNTING EQUATION

Total Claims (i.e. Capital and Liabilities) are always equal to the total Assets and is known as Accounting Equation.

The claims, also known as equities. are of two types:

1. Owner's equity or capital, and
2. Outsiders Equity (Liabilities or amounts due to outsiders).

We can express Accounting Equation as follows:

- a) $\text{Assets} = \text{Liabilities} + \text{Capital}$ or
- b) $\text{Liabilities} = \text{Assets} - \text{Capital}$ or
- c) $\text{Capital} = \text{Assets} - \text{Liabilities}$

Accounting Equation

MEANING OF AN ACCOUNTING EQUATION

Overview of the Balance Sheet that shows the Accounting Equation discussed above.

Balance Sheet

Liabilities	Rs.	Assets	Rs.
Capital	4,00,000	Fixed Assets	
Secured Loan		Land and Building	3,00,000
From Bank	2,25,000	Machinery	2,00,000
Current Liabilities		Computer	50,000
Creditors	75,000	Current Assets	
Expenses Outstanding	25,000	Stock	50,000
		Debtors	1,00,000
		Cash and Bank Balances	25,000
	7,25,000		7,25,000

Accounting Equation

MEANING OF AN ACCOUNTING EQUATION

An Accounting Equation always holds true with every change that occurs due to a transaction entered into. It is because of this reason that it is based on the dual aspect concept of accounting.

A transaction may affect either both sides of the equation by the same amount or one side of the equation only. by both increasing or decreasing it by equal amounts.

Accounting Equation

MEANING OF AN ACCOUNTING EQUATION

Transactions from the Accounting Equation viewpoint, can be divided into two, i.e.,

1. Transactions Affecting Two Items and
2. Transactions Affecting More Than Two Items.

Accounting Equation

Transactions Affecting Two Items

Transactions affecting opposite sides are:

- (i) Increase in Asset, Increase in Liability:
Transaction such as credit purchases increase asset (stock) and also increase liability (creditor). Similarly, loans from bank increase asset (cash) and also increase liability (loan).
- (ii) Decrease in Liability, Decrease in Asset:
Transaction of payment to a creditor decreases liability (creditor) and also reduces asset (cash or bank).

Accounting Equation

Transactions Affecting Two Items

- (iii) Increase in Asset, Increase in Owner's Equity:
Introduction of capital by the proprietor increases asset (cash or bank) and also liability (capital).
- (iv) Decrease in Owner's Capital, Decrease in Asset:
Drawings by the proprietor decreases liability (capital) and also asset (cash or bank).

Accounting Equation

Transactions Affecting Two Items

Transactions affecting same side but in opposite direction are:

- (i) Increase in Asset, Decrease in Another Asset:
Transactions such as cash purchases or receipt from debtors increase one asset (goods and cash or bank, respectively) and decrease another asset (cash or bank and debtors).
- (ii) Decrease in Liability, Increase in Another Liability:
Settlement of creditor by issue of Bill of Exchange decreases a liability (creditor) and increases another liability (Bill of Exchange).

Accounting Equation

Transactions Affecting More Than Two Items

Some transactions affect more than two items of the accounting equation or a Balance Sheet.

For example, when a sale is made in cash for Rs. 30,000, it is made at cost (Rs. 25,000) *plus* profit (Rs. 5,000).

Cost of goods (Rs. 25,000) reduces asset (stock of goods), cash increases by Rs. 30,000 and the owner's capital increases by the profit Rs. 5,000).

It should be noted that profit increases the owner's capital and loss decreases it.

Accounting Equation

Effect of Transactions on Accounting Equation

The procedure to workout an Accounting Equation is:

1. Analyse the transaction in terms of such variables as assets, liabilities, capital, revenues and expenses.
2. Decide the effect of the transactions in terms of increase or decrease on variables mentioned in 1.
3. Record the effect on the relevant side of the equation.

Let us take a few transactions to understand the accounting equation.

Accounting Equation

Effect of Transactions on Accounting Equation

Suppose, Rakesh starts business and the following successive transactions are entered into:

- (1) He commences his business with Rs. 20,000 as Capital.

Effect: It means that the firm has assets totalling Rs. 20,000 in the form of cash and claims against the firm are also Rs. 20,000 in the form of capital. The equation stands as follows:

	Assets	=	Liabilities +	Capital
	Cash			
Capital Introduced	20,000	=	0	+ 20,000

Accounting Equation

Effect of Transactions on Accounting Equation

(2) Purchases furniture for Rs. 500 in cash.

Effect: It means cash in hand is reduced by Rs. 500 but a new asset (furniture) of the same amount has been purchased. Thus, total of assets remains unchanged. The equation will now appear as follows:

			Assets	=	Liabilities +	Capital
	Cash	+	Furniture			Rakesh's
Old Balance	20,000	+	0	=	0	+ 20,000
New Transaction	- 500	+	500	=	0	+ 0
New Balance	19,500	+	500	=	0	+ 20,000

Accounting Equation

Effect of Transactions on Accounting Equation

(3) Purchases goods for Rs. 1,000 in cash.

Effect: It means cash in hand is reduced by Rs. 1,000 and another asset, i.e., stock has come into existence but the total of assets remains unchanged.

The equation now will be as follows:

			Assets			=	Liabilities +	Capital
	Cash	+	Furniture	+	Stock			Rakesh's
Old Balance	19,500	+	500	+	0	=	0	+ 20,000
New Transaction	-1,000	+	0	+	1,000	=	0	+ 0
New Balance	18,500	+	500	+	1,000	=	0	+ 20,600

Accounting Equation

Effect of Transactions on Accounting Equation

(4) Purchases goods for Rs. 2,000 on credit.

Effect: It means the stock has increased by Rs. 2,000 making the total assets Rs. 22,000. A liability of Rs. 2,000 to the supplier of the goods (creditor) has arisen. The equation now will be as follows:

			Assets			=	Liabilities	+Capital
	Cash	+	Furniture	+	Stock		Creditors	+ Rakesh's
Old Balance	18,500	+	500	+	1,000	=	0	+ 20,000
New Transaction	0	+	0	+	2,000	=	2,000	+ 0
New Balance	18,500	+	500	+	3,000	=	2,000	+ 20,000

Accounting Equation

Effect of Transactions on Accounting Equation

(5) Sold goods costing Rs. 2,500 on credit for Rs. 4,000.

Effect: It means a debtor has come into existence to the extent of Rs. 4,000. The stock will be reduced only by Rs. 2,500, being the cost of goods sold. The net increase in assets. Rs. 1,500. i.e. Rs. 4,000 - Rs. 2,500 (profit) will be added to the capital. The position now will be shown as

				Assets				=	Liabilities	+	Capital
	Cash	+	Furniture	+	Stock	+	Debtors	=	Creditors	+	Rakesh's
Old Balance	18,500	+	500	+	500	+	4,000	=	2,000	+	21,500
New Transaction	- 6,000	+	0	+	0	+	0	=	0	-	6,000
New Balance	12,500	+	500	+	500	+	4,000	=	2,000	+	15,500

Accounting Equation

Effect of Transactions on Accounting Equation

(7) Rakesh withdraws Rs. 2,000 for personal use.

Effect: Cash in hand is reduced by Rs. 2,000 and capital will also be reduced by the same amount. The new Accounting Equation will be as follows:

					Assets			=	Liabilities	+	Capital
	Cash	+	Furniture	+	Stock	+	Debtors	=	Creditors	+	Rakesh's
Old Balance	12,500	+	5,00	+	500	+	4,000	=	2,000	+	15,500
New Transaction	-2,000	+	0	+	0	+	0	=	0	-	2,000
New Balance	10,500	+	500	+	500	+	4,000	=	2,000	+	13,500

Accounting Equation

Effect of Transactions on Accounting Equation

It will be observed from above that the total of assets will always be equal to the total of liabilities and the capital.

The last equation stated above can also be presented in the form of a statement i.e.

Balance Sheet

Liabilities		Rs.	Assets	Rs.
Creditors		2,000	Cash	10,500
Capital	15,500		Furniture	500
Less: Drawings	2,000	13,500	Stock	500
			Debtors	4,000
		15,500		15,500

Accounting Equation

Effect of Transactions on Accounting Equation

A conclusion apparent from the transactions given above is that every transaction has a double sided effect. In other words, the Dual Aspect Concept will always hold good.

A reduction or increase in an asset will have a corresponding effect on liabilities or capital. This is because of the rule that every receiver is a giver and every giver is a receiver.

Accounting Equation

Types of Transactions

- Transactions affecting two items
 - Increase in Assets, Increase in Liabilities
 - decrease in Assets, decrease in Liabilities
- Transactions affecting one side of the equation
 - Increase in Asset, decrease in Asset
 - Increase in Liability, Decrease in Liability
 - Increase or decrease in Liability & Capital

Accounting Equation

Increase in Assets, Increase in Liabilities

Transactions	Affects
Started business with cash	Cash & Capital
Credit purchase of goods	Stock & Liabilities
Credit purchase of Assets	Asset & Liabilities
Bank Loan	Cash & Liabilities
Received Commission	Cash & Capital

Decrease in Assets, Decrease in Liabilities

Transactions	Affects
Payment to Creditors	Cash & Liabilities
Drawing	Cash & Capital
Bought furniture for personal use	Cash & Capital
Rent Paid	Cash & Capital
Depreciation on machine	Machine & Capital

Accounting Equation

Increase in Assets, decrease in Assets

Transactions	Affects
Cash purchases	-Cash, + Stock
Cash received from debtors	+Cash, - Debtors
Withdrew cash from bank	+Cash, - Bank
Deposited into Bank	+Bank, - Cash
Furniture purchased for cash	+Furniture, - Cash
Purchase of Investment	+Investment, - Cash
B/R Drawn	+B/R, - Debtors

Increase in Liability, Decrease in Liability

Transactions	Affects
Acceptance of Bills Payable	+ B/P, - Creditors

Increase or Decrease in Liability & Capital

Transactions	Affects
Conversion of debentures into shares	- Liability, + Capital
Proposed Dividend	- Profits (Capital), + Liability

Accounting Equation

Rules for Accounting Equation

Rules for Accounting Equations

Following general rules are observed while preparing accounting equation :

S.No.	Transactions	Accounts Affected	
		Assets	Liabilities & Capital
1.	Capital brought in	Cash increases (+)	Capital increases (+)
2.	Drawing	Cash decreases (-)	Capital decreases (-)

Accounting Equation

Debit and Credit			
3.	Fixed Asset purchased : (i) for cash (ii) on credit	Cash (-), Asset (+) Fixed asset (+)	- Liability (+)
4.	Goods purchased (i) for cash (ii) on credit	cash (-); stock (+) stock (+)	- Liability (+)
5.	Payment to creditors	Cash (-)	Liability (-)
6.	Sale of goods (i) Cost ₹ 5,000, sold for cash ₹ 6,000 (ii) Cost ₹ 5,000, sold to Ram on credit ₹ 6,000 (iii) Cost ₹ 5,000, sold for cash ₹ 4,500	Stock(-) ₹ 5,000; Cash (+) ₹ 6,000 Stock(-) ₹ 5,000; Debtors(+ ₹ 6,000 Stock(-) ₹ 5,000; Cash (+) ₹ 4,500	Capital (+) ₹ 1,000 Profit Capital (+) ₹ 1,000 Profit Capital (-) ₹ 500 Loss
7.	Cash received from debtors	Cash (+), Debtors (-)	-
8.	B/R drawn on Debtors	B/R (+), Debtors (-)	-
9.	B/P accepted by creditors	-	B/P (+), creditors (-)
10.	Redemption of Loan (i) by cash (ii) by issuing share capital	cash (-) -	Loan (-) Loan (-); Capital +
11.	Purchases return	stock (-)	creditors (-)

Accounting Equation

12.	Expenses : (i) Salary paid (ii) Salary outstanding or Salary unpaid (iii) Salary prepaid (iv) Salary paid includes prepaid salary	cash (-) cash (-); salary prepaid (+) salary prepaid (+)	Capital (-) as expense is a loss Creditor (+), Capital (-) (Salary o/s) as expense is a loss Capital (+) as exp. charged be reduced
13.	Income (e.g. Interest) (i) cash received (ii) interest accrued (due but not received) (iii) Interest received in advance	cash (+) Accrued Int. (+) cash (+)	capital (+) as it is gain Capital (+) as gain Interest received in advance (Liab.)+
14.	Adjustments for:- Interest on capital ₹ 100	-	Capital (No effect) as (i) Expense will reduce capital by ₹ 100 (ii) Interest on capital will increase capital by ₹ 100
15.	Interest on drawing ₹ 100	-	Capital (No effect) as (i) income will increase capital by ₹ 100 (ii) Interest on drawing will reduce capital by ₹ 100
16.	Depreciation on fixed assets	Fixed assets (-)	Capital (-) as depreciation is a loss
17.	Bad debts	Debtors (-)	Capital (-) as Bad debt is a loss
18.	Discount received (Paid ₹ 1,900 to creditor, Ram in full settlement of his claim ₹ 2,000)	cash (-) ₹ 1,900	Creditors (-) ₹ 2,000; Capital (+) 100 as discount received is a income

Accounting Equation

7/41

19.	Discount allowed (Received ₹ 1,900 from debtor, Ram is full settlement of ₹ 2,000)	cash (+) ₹ 1,900; debtor (-) ₹ 2,000	Capital (-) ₹ 100 as discount allowed is a loss
20.	Sales Return -goods costing ₹ 300 sold for ₹ 400 is returned	Stock (+) ₹ 300; debtors (-) ₹ 400	Capital (-) ₹ 100 (Profit is reduced)
21.	Interest on loan	Cash (-)	Capital (-)

Accounting Equation

ILLUSTRATION 1. Show the accounting equation on the basis of the following transactions and prepare a balance sheet on the basis of last equation :

	(₹)
1. Mohan started business with cash	40,000
2. Purchased goods on credit	15,000
3. Purchased furniture for cash	10,000
4. Paid rent ₹ 300 and salary ₹ 700	-
5. Sold goods costing ₹ 12,000 on credit	15,000
6. Paid to creditors	8,500
7. Received Interest	1,500
8. Withdrew cash for private use	4,000
9. Bought goods from Ram for ₹ 8,000 and paid ₹ 5,000 immediately	-

Accounting Equation

Accounting Equation of Mohan

S.No.	Transactions	Assets				= Liabilities + Capital						
		Cash	+	Stock	+	Furniture	+	Debtors	=	Creditors	+	Capital
1.	Started business with cash ₹ 40,000	40,000	+	0	+	0	+	0	=	0	+	40,000
		0	+	15,000	+	0	+	0	=	15,000	+	0
2.	Purchased goods on credit ₹ 15,000; New equation	40,000	+	15,000	+	0	+	0	=	15,000	+	40,000
3.	Purchased furniture for cash ₹ 10,000; New equation	-10,000	+	0	+	10,000	+	0	=	0	+	0
4.	Paid rent ₹ 300 and salary ₹ 700; New equation	30,000	+	15,000	+	10,000	+	0	=	15,000	+	40,000
		-1,000	+	0	+	0	+	0	=	0	-	1000
5.	Sold goods costing ₹ 12,000 on credit ₹ 15,000; New equation	29,000	+	15,000	+	10,000	+	0	=	15,000	+	39,000
		0	-	12,000	+	0	+	15,000	=	0	+	3000
6.	Paid to creditors ₹ 8,500 New equation	29,000	+	3,000	+	10,000	+	15,000	=	15,000	+	42,000
		-8,500	+	0	+	0	+	0	=	-8,500	+	0
7.	Interest received ₹ 1,500 New equation	20,500	+	3000	+	10,000	+	15,000	=	6,500	+	42,000
		+1500	+	0	+	0	+	0	=	0	+	1,500
8.	Withdrew cash for private use ₹ 4,000; New equation	22,000	+	3000	+	10,000	+	15,000	=	6,500	+	43,500
		-4,000	+	0	+	0	+	0	=	0	-	4,000
9.	Bought goods from Ram ₹ 8,000 & paid cash ₹ 5,000; New equation	18,000	+	3000	+	10,000	+	15,000	=	6,500	+	39,500
		-5,000	+	8000	+	0	+	0	=	3,000	+	0
		13,000	+	11,000	+	10,000	+	15,000	=	9,500	+	39,500

Accounting Equation

Balance Sheet of Mohan as at			
Liabilities	(₹)	Assets	(₹)
Creditors	9,500	Cash	13,000
Capital	39,500	Stock	11,000
		Furniture	10,000
		Debtors	15,000
	49,000		49,000

Working Notes :

1. Transaction no. 4. Rent & salary are expenses so capital will go down.
2. Transaction no 5. Stock will reduce by ₹ 12,000 while debtors will increase by ₹ 15,000. Capital will go up by ₹ 3,000 as profit ($₹ 15,000 - ₹ 12,000$)
3. Transaction 7. Interest received is a income so capital will increase.
4. Transaction 9. Stock will increase by ₹ 8,000, cash will be reduced by ₹ 5,000 so creditors will go up ₹ 3,000 as it is credit purchase.

Accounting Equation

ILLUSTRATION 2. Prepare accounting equation of Amit on the basis of the following transactions:

1. Commenced business with cash ₹ 80,000.
2. Bought goods for cash ₹ 20,000 and on credit ₹ 25,000.
3. Paid wages ₹ 3,000 and rent ₹ 1,000.
4. Wages outstanding ₹ 1,000.
5. Sold goods costing ₹ 12,000 for ₹ 16,000 for cash.
6. Goods bought was returned to creditor ₹ 1,000.
7. Bought furniture for cash ₹ 2,000 and on credit ₹ 3,000.
8. Charge interest on capital @ 10% for the year.
9. Cash deposited into bank ₹ 50,000.

Also prepare his balance sheet on the basis of accounting equation.

Accounting Equation

Accounting Equation of Amit					
<i>Transactions</i>	<i>Assets</i>			<i>= Liabilities + Capital</i>	
Commenced business with cash ₹ 80,000	Cash + Stock + Furniture +	0 +	0 +	Bank = Creditors +	Capital 0 + 80,000
	80,000 +	0 +	0 +	0 =	0 + 80,000
Bought goods for cash ₹ 20,000 and on credit ₹ 25,000;	-20,000 + 45,000 +	0 +	0 +	0 = 25,000 +	0
New equation	60,000 + 45,000 +	0 +	0 +	0 = 25,000 +	80,000
Wages ₹ 3,000 & rent ₹ 1,000;	-4,000 + 0 +	0 +	0 +	0 = 0 -	4,000
New equation	56,000 + 45,000 +	0 +	0 +	0 = 25,000 +	76,000
Wages outstanding ₹ 1,000;	0 + 0 +	0 +	0 +	0 = +1,000 -	1,000
New equation	56,000 + 45,000 +	0 +	0 +	0 = 26,000 +	75,000

Accounting Equation

5.8

5.

Sold goods costing ₹ 12,000
for ₹ 16,000 for cash

$$16,000 - 12,000 + 0 + 0 = 0 + 4,000$$

6.

Goods bought was
returned to creditor
₹ 1,000

$$72,000 + 33,000 + 0 + 0 = 26,000 + 79,000$$

$$0 - 1000 + 0 + 0 = -1,000 + 0$$

7.

Bought furniture for cash
₹ 2,000 and
on credit ₹ 3,000;

$$72,000 + 32,000 + 0 + 0 = 25,000 + 79,000$$

$$-2,000 + 0 + 5,000 + 0 = 3,000 + 0$$

8.

Charge interest on capital
@ 10% for the year

$$70,000 + 32,000 + 5,000 + 0 = 28,000 + 79,000$$

$$0 + 0 + 0 + 0 = 0 + 8,000$$

9.

Cash deposited into bank
₹ 50,000

$$70,000 + 32,000 + 5,000 + 0 = 28,000 + 79,000$$

$$-50,000 + 0 + 0 + 50,000 = 0 + 0$$

Note : (1) Trans. 4 – Wages o/s is an expense so it will reduce capital and will increase creditors.
 (2) Trans. 5 – Stock will reduce by ₹ 12,000, cash will increase by ₹ 16,000 and capital will increase by ₹ 4,000 as profit will go up.

Accounting Equation

Balance Sheet of Amit as at			
Liabilities	(₹)	Assets	(₹)
Creditors	28,000	Cash	20,000
Capital	79,000	Stock	32,000
		Furniture	5,000
		Bank	50,000
	1,07,000		1,07,000

Accounting Equation

ILLUSTRATION 3. Prepare accounting equation from the following transactions :

1. Sumit started business with cash ₹ 10,000; goods ₹ 30,000 and machinery worth ₹ 50,000.
2. Goods purchased from Ram on credit ₹ 15,000.
3. Sold goods costing ₹ 20,000 for ₹ 25,000 to Ruchi and received ₹ 10,000 in cash.
4. Paid ₹ 14,500 to Ram in full settlement of his account.
5. Ruchi returned goods for ₹ 5,000 being defective.
6. Ruchi settled her account at a discount of ₹ 200.
7. Withdrew cash ₹ 2,000 and goods for ₹ 3,000 for personal use by Sumit.
8. Charge depreciation on machinery @ 10% for the year.

Accounting Equation

S.No.		Transactions		Assets		= Liabilities + Capital	
				Cash + Stock +Machinery + Debtors = Creditors + Capital			
1.		Started business with cash ₹ 10,000 goods ₹ 30,000 & machinery ₹ 50,000		10,000 + 30,000 + 50,000 + 0 = 0 + 90,000			
2.		Purchased goods from Ram ₹ 15,000 New equation		0 + 15,000 + 0 + 0 = 15,000 + 0			
				10,000 + 45,000 + 50,000 + 0 = 15,000 + 90,000			

Accounting Equation

Accounting - I						
3.	Sold goods to Ruchi costing ₹ 20,000 for ₹ 25,000 and received ₹ 10,000 in cash New equation	+ 10,000	- 20,000	+ 0 + 15,000 =	0 + 5,000	
4.	Paid ₹ 14,500 to Ram in full settlement of his account New equation	20,000 + 25,000 + 50,000 + 15,000 =	15,000 + 95,000	-14,500 + 0 + 0 + 0 =	-15,000 + 500	
5.	Ruchi returned goods for ₹ 5,000 being defective New equation	5,500 + 25,000 + 50,000 + 15,000 =	0 + 95,500	0 + 4000 + 0 - 5,000* =	0 - 1,000	
6.	Ruchi settled account at a discount of ₹ 200 New equation	5,500 + 29,000 + 50,000 + 10,000 =	0 + 94,500	+9,800 + 0 + 0 - 10,000 =	0 - 200	
7.	Withdrew cash ₹ 2,000 and goods ₹ 3,000 for personal use New equation	15,300 + 29,000 + 50,000 + 0 =	0 + 94,300	-2,000 - 3,000 + 0 + 0 =	0 - 5,000	
8.	Depreciation @ 10% on Machinery New equation	13,300 + 26,000 + 50,000 + 0 =	0 + 89,300	0 + 0 - 5,000 + 0 =	0 - 5,000	
		13,300 + 26,000 + 45,000 + 0 =	0 + 84,300			

- Note : 1. Trans 3 – Stock will decrease by ₹ 20,000, cash will increase by ₹ 10,000, Debtors by ₹ 15,000 and profit by ₹ 5,000.
2. Trans 4 – Cash will reduce by ₹ 14,500 and creditors by ₹ 15,000 but capital will increase by ₹ 500 due to discount received.
3. Trans 5 – Cost of goods returned = ₹ 5,000 $\times \frac{20,000}{25,000}$ = ₹ 4,000 so stock will reduce by ₹ 4,000, Debtors by ₹ 5,000 and capital by ₹ 1,000 as profit will go down.
4. Trans 6– Amount due to Ruchi is ₹10,000 so discount allowed will reduce capital by ₹ 200.

Accounting Equation

ILLUSTRATION 4. Sonu had the following transactions :

1. Commenced business with cash ₹ 1,00,000 of which he deposited ₹ 60,000 in bank.
2. Bought goods for cash ₹ 30,000 and on credit ₹ 40,000.
3. Purchased a machine for ₹ 2,00,000 by raising loan from P.N. Bank, Hisar.
4. Sold goods costing ₹ 20,000 @ a profit of 20% on cost to Mohan on credit.
5. Took goods of ₹ 5,000 and cash ₹ 4,000 for personal use.
6. Paid interest on loan ₹ 4,000 and instalment of bank loan ₹ 20,000 by cheque.
7. Commission received in advance ₹ 8,000.
8. Paid ₹ 20,000 to creditor by cheque.
9. Mohan settled his account at a discount of ₹ 500.
10. Charge depreciation on machine @ 10% for the whole year.

Use accounting equation to show the effect of above transactions.

SOLUTION :

Accounting Equation of Sonu

S.No	Transactions	Assets							= Liabilities + Capital	
		Cash +	Bank +	Stock +	Machine +	Debtors =	Creditors +	Bank +	Capital	
1.	Commenced business with cash ₹ 1,00,000 of which ₹ 60,000 deposited in bank	40,000 +	60,000 +	0 +	0 +	0 =	0 +	0 +	1,00,000	
2.	Bought goods for cash ₹ 30,000 and on credit ₹ 40,000 New equation	-30,000 +	0 +	70,000 +	0 +	0 =	40,000 +	0 +	0	
3.	Purchased a machine for ₹ 2,00,000 by raising bank loan from P.N.B. New equation	10,000 +	60,000 +	70,000 +	0 +	0 =	40,000 +	0 +	1,00,000	
		0 +	0 +	0 +	2,00,000 +	0 =	0 +	2,00,000 +	0	
	Sold goods costing ₹ 20,000 @ a profit of 20% on credit New equation	10,000 +	60,000 +	70,000 +	2,00,000 +	0 =	40,000 +	2,00,000 +	1,00,000	
		0 +	0 -	20,000 +	0 +	24,000 =	0 +	0 +	4,000	
	Took good ₹ 5,000 and cash ₹ 4,000 for personal use New equation	10,000 +	60,000 +	50,000 +	2,00,000 +	24,000 =	40,000 +	2,00,000 +	1,04,000	
		-4,000 +	0 -	5,000 +	0 +	0 =	0 +	0 -	9,000	
	Paid interest on loan ₹ 4,000 and instalment ₹ 20,000 by cheque New equation	6,000 +	60,000 +	45,000 +	2,00,000 +	24,000 =	40,000 +	2,00,000 +	95,000	
		0 -	24,000 +	0 +	0 +	0 =	0 -	20,000 -	4,000	
		6,000 +	36,000 +	45,000 +	2,00,000 +	24,000 =	40,000 +	1,80,000 +	91,000	
	Commission received in advance ₹ 8,000 New equation	+8,000 +	0 +	0 +	0 +	0 =	0 +	0 +	0 + 8,000	
	Paid to creditor by cheque ₹ 20,000 New equation	14,000 +	36,000 +	45,000 +	2,00,000 +	24,000 =	40,000 +	1,80,000 +	91,000 + 8,000	
		0 -	20,000 +	0 +	0 +	0 =	20,000 +	0 +	0 + 0	
	Mohan settled his account at a discount of ₹ 500 New equation	14,000 +	16,000 +	45,000 +	2,00,000 +	24,000 =	20,000 +	1,80,000 +	91,000 + 8,000	
		23,500 +	0 +	0 +	0 -	24,000 =	0 +	0 -	500 + 0	
	Depreciation on machine @10% New equation	37,500 +	16,000 +	45,000 +	2,00,000 +	0 =	20,000 +	1,80,000 +	90,500 + 8,000	
		0 +	0 +	0 -	20,000 +	0 =	0 +	0 -	20,000 + 0	
		37,500 +	16,000 +	45,000 +	1,80,000 +	0 =	20,000 +	1,80,000 +	70,500 + 8,000	

e : Trans. 9 Due to Mohan ₹ 24,000, allowed discount ₹ 500 so amount paid is ₹ 23,500 and capital will decrease by ₹ 500.

Accounting Equation

✓ **ILLUSTRATION 5.** Show that accounting equation is satisfied in all the following transactions of Sumit :

1. Started business with cash ₹ 40,000, goods ₹ 50,000 and furniture ₹ 10,000.
2. Purchased goods from Sohan ₹ 20,000.
3. He sold goods purchased from Sohan for ₹ 25,000 to Ram.
4. He paid Sohan in full settlement of his account ₹ 19,500.
5. Received cash from Ram in full settlement ₹ 24,200.
6. Paid Rent ₹ 3,000 but ₹ 800 is still outstanding.
7. Charge depreciation on furniture ₹ 1,000.
8. Received commission ₹ 2,000 including ₹ 500 as advance.
9. Charge interest on capital ₹ 8,000.

SOLUTION:
Accounting Equation of Sumit

S.No.	Transactions	Assets				=	Liabilities + Capital		
		Cash	+ Stock	+ Furniture	+ Debtors	= Creditors	Rent a/s	Adv.	Capital com.
1.	Started business with cash ₹ 40,000, goods ₹ 50,000 and furniture ₹ 10,000	40,000	+ 50,000	+ 10,000	+ 0	= 0	+ 0	+ 0	+ 1,00,000
2.	Purchased goods from Sohan ₹ 20,000 New equation	0	+ 20,000	+ 0	+ 0	= 20,000	+ 0	+ 0	0
3.	Sold goods bought from Sohan for ₹ 25,000 to Ram New equation	40,000	+ 70,000	+ 10,000	+ 0	= 20,000	+ 0	+ 0	+ 1,00,000
4.	Paid Sohan ₹ 19,500 in full settlement New equation	0	- 20,000	+ 0	+ 25,000	= 0	+ 0	+ 0	5,000
5.	Received cash from Ram ₹ 24,200 in full settlement New equation	40,000	+ 50,000	+ 10,000	+ 25,000	= 20,000	+ 0	+ 0	+ 1,05,000
6.	Paid rent ₹ 3000 but ₹ 800 still o/s New equation	-19,500	+ 0	+ 0	+ 0	= -20,000	+ 0	+ 0	500
7.	Received cash from Ram ₹ 24,200 in full settlement New equation	20,500	+ 50,000	+ 10,000	+ 25,000	= 0	+ 0	+ 0	+ 1,05,500
8.	Received commission ₹ 2,000 including ₹ 500 as advance New equation	24,200	+ 0	+ 0	- 25,000	= 0	+ 0	+ 0	- 800
9.	Paid rent ₹ 3000 but ₹ 800 still o/s New equation	44,700	+ 50,000	+ 10,000	+ 0	= 0	+ 0	+ 0	+ 1,04,700
		-3,000	+ 0	+ 0	+ 0	= 0	+ 800	+ 0	- 3,800
7.	Charge depreciation on furniture ₹ 1,000 New equation	41,700	+ 50,000	+ 10,000	+ 0	= 0	+ 800	+ 0	+ 1,00,900
		0	+ 0	- 1,000	+ 0	= 0	+ 0	+ 0	- 1,000
8.	Received commission ₹ 2,000 including ₹ 500 as advance New equation	41,700	+ 50,000	+ 9,000	+ 0	= 0	+ 800	+ 0	+ 99,900
		+2,000	+ 0	+ 0	+ 0	= 0	+ 0	+ 500	+ 1,500
9.	Charge interest on capital ₹ 8,000 New equation	43,700	+ 50,000	+ 9,000	+ 0	= 0	+ 800	+ 500	+ 1,01,400
		0	+ 0	+ 0	+ 0	= 0	+ 0	+ 0	- 8,000
	New equation	43,700	+ 50,000	+ 9,000	+ 0	= 0	+ 800	+ 500	+ 1,01,400

Note : ₹ 1,00,000 is profit on capital with interest

Accounting Equation

5.12

ILLUSTRATION 6. Ramesh started business with a capital of ₹ 1,00,000. Following transactions took place during the year :

1. Deposited ₹ 60,000 in bank.
2. Purchased goods from Amit ₹ 30,000.
3. Sold goods costing ₹ 20,000 for ₹ 25,000 to Mohan out of which ₹ 7,000 received in cash.
4. Paid salary ₹ 5,000 but salary still unpaid ₹ 1000.
5. Received commission ₹ 2,000 including ₹ 500 as advance.
6. Sold goods costing ₹ 5,000 at a loss of ₹ 500 in cash.
7. Received ₹ 17,400 from Mohan in full settlement of his account by cheque.
8. Returned goods to Amit ₹ 2,000.
9. Issued a cheque of ₹ 27,200 to Amit in full settlement of his account.

Use accounting equation to give effect to above transaction.

Accounting Equation of Ramesh

S.No.	Transactions	Assets				=	Liabilities + Capital		
		Cash +	Bank +	Stock +	Debtors =	Creditors +	Salary o/s +	Adv. com.	Capital
	Started business with a capital of ₹ 1,00,000	1,00,000	+ 0	+ 0	= 0	0 +	0 +	0 +	1,00,000
	Deposited ₹ 60,000 in bank	-60,000	+ 60,000	+ 0	= 0	0 +	0 +	0 +	0
	New equation	40,000	+ 60,000	+ 0	= 0	0 +	0 +	0 +	1,00,000
	Purchased goods from Amit ₹ 30,000	0 +	0 +	30,000 +	= 0	30,000 +	0 +	0 +	0
	New equation	40,000	+ 60,000	+ 30,000 +	= 0	30,000 +	0 +	0 +	1,00,000
	Sold goods costing ₹ 20,000 for ₹ 25,000 to Mohan & received ₹ 7,000 in cash	7,000	+ 0	- 20,000 +	1,8000 =	0 +	0 +	0 +	5,000
	New equation	47,000	+ 60,000	+ 10,000 +	18,000 =	30,000 +	0 +	0 +	1,05,000
	Paid salary ₹ 5,000 but ₹ 1,000 still unpaid	-5,000	+ 0	+ 0	= 0	0 +	1,000 +	0 -	6,000
	New equation	42,000	+ 60,000	+ 10,000 +	18,000 =	30,000 +	1,000 +	0 +	99,000
	Received commission ₹ 2,000 including ₹ 500 as advance	+2,000	+ 0	+ 0	= 0	0 +	0 +	500 +	1,500
	New equation	44,000	+ 60,000	+ 10,000 +	18,000 =	30,000 +	1,000 +	500 +	1,00,500
	Sold goods costing ₹ 5,000 at a loss of ₹ 500 for cash	+4,500	+ 0	- 5,000 +	= 0	0 +	0 +	0 -	500
	New equation	48,500	+ 60,000	+ 5,000 +	18,000 =	30,000 +	1,000 +	500 +	1,00,000
	Received ₹ 17,400 from Mohan in full settlement by cheque	0 +	17400	+ 0	- 18,000 =	0 +	0 +	0 -	600
	New equation	48,500	+ 77,400	+ 5000 +	0 =	30,000 +	1,000 +	500 +	99,400
	Returned goods to Amit ₹ 2,000	0 +	0	- 2,000 +	= 0	-2,000 +	0 +	0 +	0
	New equation	48,500	+ 77,400	+ 3000 +	0 =	28,000 +	1,000 +	500 +	99,400
	Issued cheque of ₹ 27,200 to Amit in settlement of account	0 -	27,200	+ 0	= 0	-28,000 +	0 +	0 +	800
	New equation	48,500	+ 50,200	+ 3000 +	0 =	0 + 1,000 +	500 +	1,00,200	

- (i) Trans 3 – Profit on sale ₹ 5,000 will increase capital.
- (ii) Trans 4 – Salary o/s is expense so capital will reduce by ₹ 6,000 (5,000 + 1,000).
- (iii) Trans 5 – Advance commission ₹ 500 means current year income is ₹ 1,500 only.
- (iv) Trans 7 – Discount allowed ₹ 600 is a loss so capital will reduce by ₹ 600.
- (v) Trans 9 – Discount received ₹ 800 is an income.