

Accounting Equations

LEARNING OBJECTIVES

After studying this Chapter, you should be able to understand :

- Meaning and usefulness of Accounting Equation
- Classification of Accounts Modern Approach

Meaning of an Accounting Equation :

An accounting equation is a mathematical expression which shows that the assets of a firm are equal to the sum of its liabilities and capital contributed by the owner.

Thus, $\text{Assets} = \text{Liabilities} + \text{Capital}$

An accounting equation is based on the 'Dual Aspect Concept' of accounting which says that every business transaction has two aspects, a debit and a credit. In other words, for every debit there is a credit of equal amount and vice versa.

Prior to understanding an accounting equation, it is essential to know about a Balance Sheet. An example of a simple Balance Sheet in T form is given below :—

BALANCE SHEET

CAPITAL & LIABILITIES		ASSETS	
Capital	₹ 60,000	Cash & Bank	₹
Liabilities :—		Debtors	
Creditors		Stock in Trade	1,00,000
Bank Overdraft	40,000	Furniture	
		Machinery	
		Building	
	<u>1,00,000</u>		<u>1,00,000</u>

In the above Balance Sheet assets are recorded on the right hand side and capital and liabilities are recorded on the left hand side. At any point of time, the total of the both sides of the Balance Sheet is always equal because the assets of a business are purchased either from the funds (capital) supplied by the proprietor or from the funds provided by external parties. The above balance sheet discloses that there are total assets worth ₹1,00,000, out of which assets worth ₹60,000 have been purchased from the capital provided by the proprietor and the remaining ₹40,000 worth of assets have been purchased by the funds provided by external parties.

The above position can be expressed in the form of an accounting equation :—

Assets	=	Liabilities	+	Capital
₹1,00,000	=	₹40,000	+	₹60,000

OR

Liabilities	=	Assets	–	Capital
₹40,000	=	₹1,00,000	–	₹60,000

OR

Capital	=	Assets	–	Liabilities
₹60,000	=	₹1,00,000	–	₹40,000

Accounting equation signifies that the assets of a business are always equal to the total of capital and liabilities. A business transaction will result in the change in either of the assets, liabilities or capital of the firm and even after the change the assets will be again equal to the total of capital and liabilities. If a business transaction results in the increase of assets, there will also be a corresponding increase in the amount of either capital or liabilities by the same amount.

Usefulness of Accounting Equation :

(i) **Basis for Double Entry System of Accounting :** Accounting equation is the basis for double entry system of accounting which states that every transaction affects atleast two accounts. If one account is debited, any other account must be credited with equal amount.

(ii) **Basis for Balance Sheet :** It is because of accounting equation that the two sides of the Balance Sheet are always equal and at any point of time total assets of a firm are equal to its total liabilities.

(iii) **Ensures the Accuracy of Accounting Work :** By the use of accounting equation the accuracy of accounting work can be established because accounting equation always holds true with every change that occurs due to a transaction entered into because it is based on Dual Aspect Concept of Accounting.

Meaning of Debit and Credit

In actual practice, the individual transactions of like nature are recorded, added and subtracted at one place. Such place is customarily termed as an 'Account'. Prior to understanding the meaning of debit and credit, it is essential to understand the meaning and form of an Account.

Account :— An account is a record of all business transactions relating to a particular person or item. In accounting we keep a separate record of each individual, asset, liability, expense or income. The place where such a record is maintained is termed as an 'Account'. Such as the Account of Ghanshyam, the Account of Ram, the Account of Machinery, the Account of Salary, the Account of rent and likewise. All transactions entered into with Ghanshyam will be recorded in the Account of Ghanshyam and similarly, all transactions relating to Ram will be recorded in the Account of Ram. According to Carter :

“An Account is a ledger record in a summarised form, of all the transactions that have taken place with the particular person or things specified.” — Carter

All accounts are divided into two sides. The left side of an account is arbitrarily or traditionally called Debit side and the right side of an account is called Credit side. In

the abbreviated form, Debit is written as Dr. and Credit is written as Cr. For example, the transactions relating to cash are recorded in an account, entitled 'Cash Account' and its format will be as given below :—

Debit (Dr.)	CASH ACCOUNT	Credit (Cr.)

The above account resembles English capital letter 'T'. As such, it is often called 'T' shape account. An Account is abbreviated as A/c.

Rules of Debit and Credit

In order to decide when to write on the debit side of an account and when to write on the credit side of an account. There are two approaches :—

- (I) American approach or Modern Approach and
- (II) English approach or Traditional Approach

(English approach is also called 'Double Entry System' which has been discussed in the next chapter).

American Approach :— The rules of debit and credit depend on the nature of an account. For this purpose, all the accounts are classified into the following five categories in the American approach :—

- I. Assets Accounts
- II. Liabilities Accounts
- III. Capital Account or Owner's Equity Account
- IV. Revenue or Income Accounts
- V. Losses or Expenses Accounts

While discussing an accounting equation, we have studied that if there is an increase or decrease in one account, there will be equal decrease or increase in another account. Accordingly, following rules of debit or credit in respect of the various categories of accounts can be obtained :—

I. Assets Accounts :— When there is an increase in the amount of an asset, such an increase is recorded on the debit side of the asset account and if there is a reduction in the amount of an asset, such reduction is recorded on the credit side of the asset account. For example, if a firm purchases furniture of ₹60,000, it will be recorded on the debit side of the furniture account, since the furniture has increased by this amount. Again, if the firm sells furniture of ₹20,000, the reduction will be recorded on the credit side of the furniture account.

Dr.	ASSET ACCOUNT	Cr.
Increase in asset will be recorded on this side.	₹	Decrease in asset will be recorded on this side. ₹

II. Liabilities Accounts :— When there is an increase in the amount of a liability, such an increase will be recorded on the credit side of the liability account. On the contrary, if there is a reduction in the amount of a liability, it will be recorded on the debit side of the liability account. For example, if a firm borrows ₹50,000 from

Govind, the account of Govind will be credited since ₹50,000 is now owing to him. When the loan is repaid, the account of Govind will be debited since the liability no longer exists.

LIABILITY ACCOUNT				Cr.
Dr.				
Decrease in liability will be recorded on this side.	₹	Increase in liability will be recorded on this side.	₹	

III. Capital Account :— An increase in the capital is recorded on the credit side and the decrease in the capital is recorded on the debit side. Suppose, the proprietor introduces the additional capital in the business, the capital account will be credited. Similarly, if the proprietor withdraws some money for his personal use, i.e., makes drawings, the capital account will be debited.

CAPITAL ACCOUNT				Cr.
Dr.				
Decrease in capital will be recorded on this side.	₹	Increase in capital will be recorded on this side.	₹	

IV. Revenue or Income Accounts :— All increases in the gains and incomes are recorded on the credit side of the concerned income account as it leads to increase in the capital. On the contrary, if there is a reduction in any gain or income, the account concerned will be debited, as it leads to decrease in the capital.

REVENUE OR INCOME ACCOUNT				Cr.
Dr.				
Decrease in gains and incomes will be recorded on this side.	₹	Increase in gains and incomes will be recorded on this side.	₹	

V. Losses or Expenses Accounts :— All increases in the losses and expenses are recorded on the debit side of the concerned expenses account as it leads to decrease in the capital. On the contrary, the reduction in expenses is recorded on the credit side.

LOSSES OR EXPENSES ACCOUNT				Cr.
Dr.				
Increase in losses and expenses will be recorded on this side.	₹	Decrease in losses and expenses will be recorded on this side.	₹	

The rules given above may be summarised as below :—

1. Debit the increase in assets and Credit the decrease in assets.
2. Credit the increase in liabilities and Debit the decrease in liabilities.
3. Credit the increase in Capital and Debit the decrease in Capital.
4. Credit the increase in Incomes and Debit the decrease in Incomes.
5. Debit the increase in Expenses and Credit the decrease in Expenses.

On the basis of the above discussion it can be concluded that :—

The term debit should not be taken to mean favourable things. It may represent favourable or unfavourable, increase or decrease depending on the nature of an account. Similarly, the term credit may represent favourable or unfavourable, increase or decrease depending on the nature of the concerned account. In the case of assets and expenses, debit means increase and credit means decrease. In the case of liabilities, capital and incomes, debit represents decrease and credit represents increase.

Dr.

ASSETS OR EXPENSES ACCOUNT

Cr.

Record increase in these accounts on this side.

Record decrease in these accounts on this side.

Dr.

LIABILITY, CAPITAL OR INCOME ACCOUNT

Cr.

Record decrease in these accounts on this side.

Record increase in these accounts on this side.

ILLUSTRATION 1.

On which side will the increase in the following accounts be recorded? Also mention the nature of Account —

- | | |
|--------------|-------------------------|
| 1. Cash | 5. Proprietor's Account |
| 2. Machinery | 6. Rent Received |
| 3. Debtor | 7. Salary Paid |
| 4. Creditor | 8. Interest Received |

SOLUTION:

- | (Nature of Account) | (Nature of Account) |
|-----------------------|---------------------|
| 1. Debit — Asset | 5. Credit — Capital |
| 2. Debit — Asset | 6. Credit — Income |
| 3. Debit — Asset | 7. Debit — Expenses |
| 4. Credit — Liability | 8. Credit — Income |

ILLUSTRATION 2.

On which side the decrease in the following accounts be recorded? Also mention the nature of Account :—

- | | |
|-------------------------|-------------------------|
| 1. Furniture | 4. Salary Paid |
| 2. Bank | 5. Salary Outstanding |
| 3. Proprietor's Account | 6. Subhash — a Customer |

SOLUTION:

- | (Nature of Account) | (Nature of Account) |
|------------------------|----------------------|
| 1. Credit — Asset | 4. Credit — Expenses |
| 2. Credit — Asset | 5. Debit — Liability |
| 3. Debit — Capital A/c | 6. Credit — Asset |

SHORT ANSWER QUESTIONS

1. Prove that, "Accounting Equation holds good under all circumstances." Give an example.
2. Explain in short the meaning of Accounting Equation.
3. Give two basic purposes of accounting equation.
[Ans. (i) Since accounting equation is always equal it ensures the accuracy in recording of business transaction.
(ii) It helps in preparation of Balance Sheet.]
4. Describe the fundamental accounting equation.

5. If the capital of a business is ₹2,40,000 and liabilities are ₹40,000, calculate the total assets of the business.

[Ans. ₹2,80,000.]

Hint. Assets = Liabilities + Capital

6. Which of the following equations are correct ?

I. Assets	=	Capital	+	Liabilities
II. Assets	=	Capital	-	Liabilities
III. Assets	=	Liabilities	-	Capital
IV. Capital	=	Assets	-	Liabilities
V. Capital	=	Assets	+	Liabilities
VI. Liabilities	=	Capital	+	Assets
VII. Liabilities	=	Capital	-	Assets
VIII. Liabilities	=	Assets	-	Capital

[Ans. I, IV, VIII.]

7. Why are the rules of debit and credit same for both liability and capital?
[Ans. Because according to business entity concept capital is also treated as liability of the business.]
8. What entry (debit or credit) would you make to (a) increase in revenue (b) decrease in expense, (c) record drawings, (d) record the fresh capital introduced by the owner.

[Ans. (a) Increase in Revenue	:	Credit
(b) Decrease in Expense	:	Credit
(c) Drawings	:	Debit in Capital Account
(d) Fresh Capital	:	Credit in Capital Account]

9. If a transaction has the effect of decreasing an asset, is the decrease recorded as a debit or as a credit? If the transaction has the effect of decreasing a liability, is the decrease recorded as a debit or as a credit?

[Ans. Decrease in Asset will be recorded on credit side.

Decrease in Liability will be recorded on debit side.]

10. Which transactions will :

- I. Decrease the Assets and Decrease the Capital.
- II. Increase the Assets and Increase the Liabilities.
- III. Increase the Assets and Decrease another Asset.
- IV. Decrease the Assets and Decrease the Liabilities.

[Ans. (I) Drawings or Expenses; (II) Purchase of an asset on Credit; (III) Purchase or Sale of an asset in Cash; (IV) Payment of a liability.]

PRACTICAL QUESTIONS

Q. 1. On which side the increase in the following accounts will be recorded? Also mention the nature of account :—

- | | |
|------------------------|-------------------------|
| 1. Furniture | 5. Proprietor's Account |
| 2. Rent Paid | 6. Debtor |
| 3. Commission Received | 7. Creditor |
| 4. Salary Paid | |

- [Ans. 1. Debit — Asset
2. Debit — Expenses
3. Credit — Income
4. Debit — Expenses]
5. Credit — Capital
6. Debit — Asset
7. Credit — Liability

Q. 2. On which side the decrease in the following accounts will be recorded? Also mention the nature of account :—

1. Cash
2. Bank Overdraft
3. Rent Paid
4. Outstanding Rent
5. Prepaid Insurance
6. Manoj, Proprietor of the business
- [Ans. 1. Credit — Asset
2. Debit — Liability
3. Credit — Expenses
4. Debit — Liability
5. Credit — Asset
6. Debit — Capital]

Q. 3. On which side will the increase in the following accounts be recorded? Also mention the nature of account :

1. Machinery
2. Wages paid
3. Rent Received
4. Cash
5. Proprietor's Account
6. Debtor
7. Prepaid Insurance
8. Outstanding Salary
- [Ans. 1. Debit — Asset
2. Debit — Expenses
3. Credit — Income
4. Debit — Asset
5. Credit — Capital
6. Debit — Asset
7. Debit — Asset
8. Credit — Liability]