
UNIT 2**CONCEPT AND TERM**

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2.0 OBJECTIVES

Logic is said to be the study of argument as expressed in language. Language in general is highly ambiguous. In any language words are often used in various senses. For example, sometimes 'thought' and knowledge' are used as synonymous terms. Therefore this unit aims at:

- examining major entities in the language of logic like concepts, words and terms and thereby show that they carry lot of philosophical significance and at the same time carry different senses.
- familiarizing the students with varieties of technical terms. Terms can be classified under different criteria. There are simple and composite terms, singular and general terms, collective and non-collective terms, absolute and relative terms, concrete and abstract terms, positive, negative and private terms and connotative and non-connotative terms. This unit undertakes a study of these various types of terms to procure a good undertaking of the language of logic with which the student is expected to be sufficiently acquainted.

2.1 INTRODUCTION

Language is the external expression of intention, thought etc. It is the means of communicating our ideas to other people. In logic, by language we mean only the verbal expression of our ideas, either spoken or written. The Greeks seem to have used the word 'logos' to denote ideas as well as speech. This clearly shows the close relation between language and thought. As Grumbley has rightly pointed out, thought and language are closely connected just like how principles of life and activities of a living organism are connected. Clear thinking and accurate language help each other.

Further, it is language that gives thought a name and an abiding reality as a permanent possession. It is popularly said: 'Thought lives in language'. The multitudes of objects that we

see around cannot be remembered unless certain names are endowed to the ideas of those objects. The nature of thought is such that it gets dissolved unless we put them in words.

Language not only structures thought by codifying them, but also does the service of preserving them for future generations. It enables us to split complex ideas into atomic ones to analyse and thereby understand them. Hence the philosophers often comment that logic and language are the two sides of the same coin. In order to understand complex ideas we split them into simple words. Words like *chastity*, *nationality*, *religious* are just a few examples to convince ourselves that words can stand representing condensed expression of complex thoughts pregnant with many ideas. In this unit an attempt is made to understand how words, concepts and terms play a decisive role in our study of logic.

2.2 CONCEPT, WORD AND TERM

It is necessary to distinguish between word, concept and term. Concept means a general idea. There is difference between the two ideas represented by the terms 'student' and 'a student'. The term 'a student' refers to a particular student in an indefinite manner and it is essentially singular in usage. The term 'student' is applied in general to all those who undertake studies. The common and essential attributes which are found in every particular individual of the class are thought of separately, and thus we get a concept. In brief, the concept stands for general ideas. When expressed in language concept becomes a term. Judgment is the process of relating two concepts. For instance, the two concepts 'water' and 'cold' may be related and the result is the judgement, 'water is cold'. A judgment when expressed in language is called a proposition.

Sometimes it is said that concepts are mental entities. They are not visible. Conception or simple apprehension is the function of human mind by which an idea of a concept is formed in the mind. It is a process of forming mental image of an object, e.g., you see an elephant and form an idea of the elephant in the mind.

The formation of concepts involves the following processes.

- (1) Comparison: Different entities are compared with one another so that the attributes they share in common and those on which they differ can be specified. This process enables the agent to find essential attributes of the concept and distinguish them from what are merely accidental.
- (2) Abstraction: The next step is to abstract the essential characteristics. This is purely an intellectual exercise.
- (3) Generalization: The third step is to generalize the result of abstraction because obviously not all objects belonging to any given class are observed.
- (4) Naming: The final step is to give a name to the generalized group of common attributes, so that it becomes easy to retain the idea of the concept in our mind.

Regarding the nature of conception, there are three views prevalent in metaphysics, Realism, Conceptualism and Nominalism. According to realism there is a corresponding real substance to every concept. This view is attributed to ancient Greek thinkers like Plato. Conceptualism is the view according to which conceptions are not real things but only general ideas. Nominalism is the view according to which conception are merely general names, not general ideas.

What is a word? A word consists of a letter or combination of letters conveying determinate meaning. A word may consist of only one letter. e.g. *a, I*, or it may consist of more than one letter, e.g., *an, man, horse, mortal* etc.

A name is a word or group of words which can become the subject or predicate of a proposition. Every word cannot be called name, e.g., 'or', 'before', 'if' etc. If we say 'Before has four legs' it sounds stupid. Thus it is clear that all words can not become names while all names must be words. Hobbes defines name thus: "A name is a word taken at pleasure to serve for a mark which may raise in our mind a thought like some thought which we had before, and which being pronounced by either, may be to them a sign of what thought the speaker had before his mind". Mill also speaks of two kinds of words: words which are not names (as described above) and words which are names. He calls the latter term.

A term is a word, or a combination of words, which by itself is capable of being used as subject or predicate of a proposition. A proposition is a declarative statement which is either true or false but not both. A term is so called because it occurs at the boundaries of a proposition. In the proposition 'Gandhiji is the father of the nation', 'Gandhiji, and 'father of the nation' are terms because they occur at the boundaries of the proposition. Traditional logic speaks of two kinds of words, viz., subject and predicate. In the example quoted above 'Gandhiji' is the subject because the proposition says something *about* 'Gandhiji' and 'father of the nation' is the predicate because it says something about subject, i. e., 'Gandhiji'. It means that subject term is that about which something is said and the predicate term is what is said *about subject term*. Here 'is' is not a term because it is incapable of functioning either as a subject or as a predicate. Also, names become terms only if they are parts of a proposition as subject and predicate. Thus every word is not term though every term is a word or a combination of words. Again, names may have different meanings, but a term has only one definite meaning in a proposition. Outside the proposition a term loses its significance and is merely a name. For example, *Balance* means a weighing machine or whatever is left after expenditure. However, when we use it in the proposition 'Balance is a weighing machine', it carries only one meaning.

There are three kinds words: *Categorematic, syncategorematic* and *a-categorematic*. A categorematic word is one which can by itself be used as a term without the help of other words, e.g. pencil, clever, man, etc. In other words when a word is used independently either as a subject or a predicate in a statement it is called as categorematic word.

Examples:

Roses are red. (Here 'red' is used as a predicate.)

Red is a color. (Here 'red' is used as a subject.)

All nouns including proper nouns are categorematic words. Let us look at a negative example. Consider a statement; 'roses are very colourful', the word 'very' cannot be independently used. We will not write 'Roses are very', it makes no sense. Nor can we use it as a subject. Again, when we say some are red, we actually mean 'out of many objects only *some* objects are red. Although *some* appears to be a subject it really is not. We understand it by the context in which the statement is made. 'Maradona is a great football player'. Here Maradona is used independently the subject in the statement. In these examples the words 'roses', 'Maradona', 'colourful', etc., are categorematic words.

A syncategorematic word is one which cannot be used independently as term, but which can only be used along with other words e.g., *of, with, and, the*, etc. It is a word that is used as part of a subject or a predicate, or a word that joins the subject and the predicate. Nouns, participles, pronouns, adjectives, etc., are categorematic words, while parts of speech like preposition, adverb, etc., are syncategorematic words. Let us look at a few examples. In the statement 'Some people are funny' 'some' is a part of the subject and so it is a syncategorematic word. The word 'are' joins the subject and predicate, and it is also a syncategorematic word.

Let us look at a few more examples: consider the statement 'Computer is very fast'. Here 'is' and 'very' are parts of the predicate. They are syncategorematic words. In the statement 'the telephone is dead', the word 'the' and 'is' are syncategorematic. Again in the example 'the cat is under the chair', 'under', 'the', and 'is' are syncategorematic words. In fact all words other than nouns and emotive words like Ah! Ouch! Alas, are syncategorematic words. In brief, a categorematic word is one which can be used as a term by itself, without the support of other words and syncategorematic word is one which cannot be used as a term by itself, but can form term only when joined to one or more categorematic words.

A-categorematic words merely express some exclamatory feelings or emotions. Examples: Ouch! Aha! Hurrah! Hymn! Alas! Oh! and similar such exclamations. The word acategorematic may be jaw-breaking, but the words in this classification are pretty easy to identify. It cannot become a term either singly or even when conjoined with other words such as interjection.

This classification of words into three types have been determined by the presupposition that subject predicate form is the basic form and all other sentences or propositions have to be transformed into this form.

At this stage we need to introduce two very important notions: **denotation and connotation**. In the first place terms are used to point out objects, to name and to identify them, e.g., the term 'man' refers to all human beings. When a term is applied to denote objects or show their number, it is said to be used in denotation. It means number, or the reference of a term. As for example, the term 'man' denotes several individuals like Plato Aristotle, Gandhi and others, and all men of past, present and future. Denotation is also known as extension because it shows the extent or range of objects to which a term is applied. All the objects to which a term is extended constitute the extension of a term.

Terms are used not only to denote objects but also to show their qualities. In other words, terms are used to describe the object. Every term has a meaning. It stands for certain qualities. The term 'man' for example, shows the qualities of man like, 'animality' 'rationality' etc. The function of suggesting qualities possessed by this object is known as connotation. Every term denotes certain objects and connotes certain qualities. Connotation is also known as *intension* because it refers to general qualities intended by a term. The extension of the term 'college' is all the various colleges, while its intension is the various qualities describing the term, namely educational institution giving higher education. When we say that connotation of a term consists of the attributes which describe, a question arises as to which attributes are meant by the connotation. There are three views regarding the exact meaning of connotation. 1) *Objective*

view: according to this view connotation means all the attributes actually possessed by the object, all known and unknown. But since in logic we are not concerned with anything unknown, this view is not useful. 2) *Subjective view*: according to this view we must mention all the qualities known to us. But the subjective position will cause variations regarding the actual qualities of the entity and hence is not acceptable. 3) *Logical view*: according to this view connotation means only those common, essential qualities of the object on account of which the term is applied to the object. Non-essential qualities do not form part of the connotation even if they are common to the whole class.

Let us see a few examples classifying denotation and connotation.

Examples:	TERM DENOTES	CONNOTES
Shoe	All shoes	a stiff outer covering of the foot
Knife	All knives	an instrument for cutting
Love	No denotation	Fondness, strong liking

Here are a few more examples of connotation and denotation of terms.

Common noun: 'dog'

Denotation: all the animals to which the term can be applied.

Connotation: a wild or domestic animal of the same genus as the wolf.

Descriptive phrases always have a connotative meaning, but their denotation may be definite, indefinite or totally absent. A definite description can be replaced by a proper noun. Example: 'The proximate island to the south of India' can be replaced by 'Sri Lanka'. An indefinite description can be replaced by a common noun. Examples: 'Baby lion' can be replaced by 'cub'. 'House for a dog' can be replaced by 'kennel'. Naturally if a term does not denote anything (like the term 'love') the question of replacing by common noun does not arise.

2.3 TERMS AS A NAME OF CLASS

If we view a term as a name of a class, the connotation of the term defines the essence of that class, while the denotation refers to the members of the class.

Examples: jet, medicine, disease, sports

All these words are terms or classes. Consider one example. Jet is a class of objects. A quality or qualities which make an object jet constitute connotation. All connotative qualities together determine a class. A class may have sub-classes.

Example 1: disease – tropical disease, heart disease, skin disease

While 'disease' is a class it has sub-classes like 'tropical disease', 'heart disease', 'skin disease' etc. These sub-classes may in turn have individual members or further sub-classes. For example, the sub-class, 'tropical disease', has as members 'malaria', 'typhoid', 'cholera' etc. 'Typhoid' is a sub-class having members like 'para-typhoid' etc.

Example 2: Class – 'sports'

'Outdoor sports' is a sub-class of the class 'sports'.

'Cricket' is a member of the sub-class 'outdoor sports'.

The relation of the member 'cricket' to the class 'sports' or to the sub-class 'outdoor sports' is class membership. The relation of the sub-class 'outdoor sports' to the class 'sports' is called class inclusion.

2.4 EXTENSION AND INTENSION

It is customary to use 'extension' instead of 'denotation' and 'intension' instead of 'connotation' when a term refers to a class. There is a reason why the words 'extension' and 'intension' are used while we deal with classes. A class may have sub-classes, sub-classes with further sub-classes, and so on as we have seen. By 'extension' we would then mean the range of sub-classes or number of members within that class i.e., how extensive is the denotation of the term, or how wide the denotation of a term is?

Intension means the sum of the qualities which describe a general name. The scope of application of the term is to all the members of the class, and this signifies extension. The qualities or properties of content or subject matter of the term signifies intension. Let us take the term 'box' as example. The extensional significance of 'box' consists of the objects to which this term may be applied. The intensional significance of the term 'box' is the sum of attributes which defines the class.

2.5 INVERSE VARIATION

As the extension increases (covering more sub-classes), the intension decreases and if extension decreases, intension increases. The same relation can be stated in this way also. If intension increases, extension decreases and if intension decreases, extension increases. An example will clarify the relation. Let us employ hypothetical numbers and apply general knowledge. This is enough to understand the nature of relation.

Denotation	3 billion	1.1 billion	200 million	60 million
Terms	Asians	Indians	South Indians	Kannadigas
Intension	2	3	4	5

A person to be called an Asian must satisfy two requirements; 1) he or she must be a human being 2) that person must be a permanent resident within the geographical boundaries of Asia. Therefore the connotation of 'Asian' is 2. And the population of Asia is approximately 3 billion. Therefore the denotation of the term 'Asians' is 3 billion. 'Indians' constitute a subclass of Asians. Therefore the population of India must be naturally less than that of Asia. An Indian is not only a human living in Asia, but also possesses an additional connotation. He must be a bona fide citizen of India. Therefore the connotation of Indians is one more than that of 'Asians'. The student is advised to try to grasp the rest. It is easy to notice that in this arrangement as denotation decreases connotation increases. If we reverse the arrangement, decrease in intension is accompanied by increase in denotation. The student is advised to experiment to satisfy himself or herself of the truth of this relation.

applicable to null classes.

Check Your Progress I

- Note:** a) Use the space provided for your answer.
b) Check your answers with those provided at the end of the unit.

1) Distinguish between word, concept and term.

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2) Explain different classification of words.

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2.6 CLASSIFICATION OF TERMS

Terms are classified as simple and composite; Singular and general; Collective and non-collective; Absolute and relative; Concrete and abstract; and, Positive, negative and privative.

Simple and Composite Terms:

One worded terms are called simple terms. Examples: Agra, cat, library, etc.

Many worded terms are called composite or complex terms. Examples: highest mountain peak, railway station, group of commandos, spring flowers, Royal Bengal tiger, good humor, wise men of Nottingham etc.

Singular, General and Collective Terms:

When a term designates one individual or an object it is called singular term. Examples: Agra, Qutub Minar, etc.

When a term designates many objects or individuals it is called general term. Examples: trees, rivers, men, etc.

A term applicable only to a collection of objects, but not to any individual member, is called a collective term. Examples: library, Indian army etc. The term 'library' is applicable to a set of books, but you cannot pull out a book and call it a 'library'. Similarly the term 'Indian army' refers to a set of soldiers and officers, but we cannot refer to one soldier or officer from the set as 'Indian army'.

Absolute and Relative Terms:

A term is an absolute term when its meaning is understood with the help of that term only. Examples: cows, river, etc.

A term is relative when its meaning is understood with the help of some other terms. Examples: grandfather, wife, etc.

Concrete and Abstract Terms:

A concrete term refers to objects or a class which exist in space and time and which can be perceived.

Examples: car, Eden garden, stars, fish etc.

An abstract term refers to qualities or entities which cannot be perceived.

Examples: God, demon, love, honesty, virtue, happiness, centaur etc.

Positive, Negative and Privative Terms:

A term is positive when it refers to the presence of qualities.

Examples: good, happy, big, train, flowers etc.

A term is negative when it refers to the absence of qualities.

Examples: non-violence, non-cooperation, non-vegetarian etc.

Note that a negative term does not imply an opposite term in the sense of 'black-white', 'hot-cold', 'rich-poor' etc. Prefixes like un-, dis-, as in 'undesirable', 'unbelievable' etc., also do not make a term negative; neither do suffixes like -less, 'powerless', 'homeless' etc., make term negative. It is the meaning that determines its character.

A term is privative when it refers to the deprivation of a quality related to comfort or pleasure.

Examples: The term 'deaf' deprives an individual of the 'pleasure of hearing'. 'Pain' deprives one of being painless.

Check Your Progress II

- Note:** a) Use the space provided for your answer.
b) Check your answers with those provided at the end of the unit.

1) What do you mean by denotation and connotation of terms?

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2) Write in detail about the classification of terms.

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2.7 LET US SUM UP

In this unit we have attempted to understand various linguistic usages with which a student of logic must be familiarized. We started the discussion by distinguishing concepts, words and

terms. It was said that a concept is a general idea, while a word consists of a letter or combination of letters conveying some meaning. A term, on the other hand is a word or a combination of words which by itself is capable of being used as subject or predicate of a logical proposition. Logicians use the words extension and intension. Some logicians try to give a mathematical form of expression to the quantitative relation between connotation and denotation. They say, 'connotation and denotation vary in inverse ratio'. Further, terms can be classified as simple and composite terms, singular and general terms, collective and non-collective terms, absolute and relative terms, concrete and abstract terms, positive, negative and privative, and finally connotative and denotative terms.

2.8 KEY WORDS

Terminology: Terminology is the study, among other things, of how the terms come to be and their interrelationships within a culture.

Criterion: Criterion, in Logic, is an issue or standard used regarding the starting point of an argument or knowledge.

2.9 FURTHER READINGS AND REFERENCES

Nath Roy, Bhola. *Text Book of Deductive Logic*. Calcutta: S.C.Sankar & Soul Private Ltd, 1984.
Felice, Anne. *Deduction*. Cochin: 1982.

2.10 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress I

1. A concept is a general idea. A word consists of a letter or combination of letters conveying a determinate meaning. A term is a word or combination of words which by itself is capable of being used as subject or predicate of a proposition.
2. Words are classified as categorematic, syncategorematic and a-categorematic words. Categorematic words are those which can by themselves be used as terms without the help of other words. Syncategorematic words are those which cannot be used independently as terms, but which can only be used along with other words, e.g. of, with, and, the, come etc. Acategorematic words are words which express only exclamatory feelings or emotions.

Check Your Progress II

1. Denotation means number, or the reference of a term. It is also known as extension because it shows the extent or range of objects to which a term is applied. The function of suggesting qualities possessed by these objects is known as connotation.
2. Terms can be classified as:
 - Simple and composite terms
 - Singular and general terms
 - Collective and non-collective terms

Absolute and relative terms
Concrete and abstract terms
Positive, negative and private terms
Connotative and non-connotative terms

