

(22) Modern - classification of enzymes :

This classification of enzymes has been proposed by international union of biochemistry (IUB) in the year 1964.

The following are the different features of this classification -

(a) Every enzyme name should have two parts: the name of substrate to be catalysed and the 2nd part ending in "ase" is the type of reaction.

Ex- Succinic dehydrogenase
Hexo - isomerase etc.

(b) All enzymes have been classified into six classes - and every class has 4-13 sub class.

(c) Every enzymes has a systematic code no. consisting usually of four digits. The first digit stands for the class, 2nd for the sub class, 3rd for the sub-subclass and the 4th one is the enzyme proper.

As for example - 2711

'2' for the class 2nd - Transfrase
7 for the sub class which stands for transfer of phosphate radical.

1 for sub-subclass - Alcohol functioning as an acceptor of phosphate radical.

1 (4th digit) for the enzyme proper - Hexo Kinase.

(d) If any additional information is to be given, it is given in parentheses in brackets.

The following are the six classes of enzymes according to this system of classification -

I. Oxidoreductase:-

They catalyse both oxidation as well as reduction reaction. Notable among them are -

Dehydrogenase, oxidase etc.

II. Hydrolase:-

They are hydrolysing enzymes. As for example Carbohydrase, Esterase, Amidase and proteolytic enzymes etc.

III. Transferase:-

They catalyse group transfer. As for example Phosphorylase, Transaminase etc.

IV. Lyase:- These enzymes bring about breakage or splitting of following carbon bonds -

$C-C$, $C=C$, $C-S$, $C-N$ etc.

V. Isomerase - They bring about isomerisation reaction.



Ex- Hexo-isomerase, Triose isomerase

VI - Ligase :-

These enzymes bring about synthesis of long chain carbon compound with the help of smaller carbon compounds.

