

Q.1 Define biochemistry. Explain scope & Importance of biochemistry :-



Biochemistry :-

Biochemistry can be defined as the science concerned with the chemical nature & chemical behaviour of living matter.

Importance of Biochemistry :-

- 1) To evaluate nutritive value of cereals & pulses.
- 2) Development & exploitation of better genotype.
- 3) Removal or inactivation of toxic and anti-nutritional factors present in the food grains in general and the grain legumes in particular.
e.g BOAA (Boxyalyl) & amino oxaline)
- 4) Removal or inactivation of toxic and anti-nutritional factors present in the food grains in general and the grain legumes in particular
- 5) Evaluation of nutritive value of cattle & poultry feed.

5) Biochemistry of disease & pest resistance in plants.

6) Biochemistry of drought resistance varieties

7) Use of non-conventional source of food

8) Synthesis of & degradation of constituents of living tissue.

Scope of Biochemistry :-

1) The nature of chemical constituents of the living matter & the chemical substances produced by living things

2) The functions & transformation of chemical entities in biological system.

3) The chemical & energetic changes associated with the transformation in the activity of living matters

4) Modern Biochemistry has two branches describe & dynamic biochemistry.

Q. Define carbohydrate. Give the classification of carbohydrates & function of carbohydrates.

⇒ * Carbohydrate :-

Carbohydrate are defined as the aldehyde or ketone derivatives of polyhydroxy alcohols. Hence each carbohydrate contain aldehyde (-CHO) or ketone (C=O) group in its structure.

* Classification of carbohydrates :-

1] Monosaccharides :-

Simple sugars that cannot be split further by hydrolysis.

a) Aldoses :- Monosaccharides containing -CHO group
e.g. glucose, galactose,

b) Ketoses :- Monosaccharides containing C=O group
e.g. fructose.

2] Oligosaccharides :-

Sugars that yield 2-10 molecules of monosaccharides on hydrolysis.

a] Disaccharides :-

Sugars made up of two monosaccharides
e.g. sucrose, lactose, maltose

i) Reducing sugar :-

Sugars having free or potentially free -CHO or C=O groups. e.g. lactose, maltose

ii) Non-reducing sugars :-

Sugars having no free or potentially free -CHO or C=O groups i.e. sucrose

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