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Q no 1:

Points of Cell theory:

- i) All living organisms are composed of one or more cells.
- ii) The cell is the basic unit of structure and organization in organisms.
- iii) Cells arise from pre-existing cells.
- iv) In a multicellular organism, the activity of entire organism depends on the total activity of its independent cells.

Q no 2:

Classification of monosaccharide on the basis of C-atom:

→ If monosaccharide contain three carbon atoms it is called Triose.

e.g. L-glyceraldehyde, D-glyceraldehyde

→ if monosaccharide contain four carbon atoms it is called Tetrose.

e.g. D-erythrose, D-threose, D-erythrulose.

→ if monosaccharide contain five carbon atoms it is called pentose.

e.g. ketopentoses, aldopentoses.

→ if monosaccharides contain 6 carbon atom it is called hexose.
e.g. aldohexoses.

→ if monosaccharides contain 7 carbon atom it is called heptoses.
e.g. ketoses, mannoheptulose, sedoheptulose.

Q no 3:

Function of macromolecules which are present in cell membrane.

→ Basically cell membrane is composed of 3 macromolecules:

i) proteins → Make 50%.

ii) Lipids → 47%.

iii) Carbohydrates → 3%.

i) Functions of Proteins;

→ it provide structural support to the cell membrane.

→ it is responsible for catalyzing the reactions.

→ it is responsible for transporting molecules from outside to inside and inside to outside the cell.

ii) Functions of lipids:

- They serve as regulatory agents in cell growth, and adhesion.
- They participate in the biosynthesis of other molecules also.

iii) Functions of Carbohydrates:

- They covalently linked to protein or lipids.
- it's functions as adhesion and address loci for cells.

☐ no 4:

- Amino nitrogen accounts for approximately 16% of the weight of proteins.
- it contain creatine, peptide hormones and some neurotransmitters.

creatine: found in vertebrates where it facilitates recycling of ATP.

peptide hormones: → it regulate growth, appetite and energy metabolism.

Neurotransmitter:

- it transfer the action potential from one neuron to other.

Q no 5:

Digestion and absorption of carbohydrates:

- Digestion starts at mouth, where amylase enzyme breaks down the food into small pieces, disaccharides.
- As food starts traveling through esophagus and reach to the stomach, esophagus produce mucus for lubrication.
- Due to the acidic nature of stomach it stops the action of amylase enzyme.
- After that carbohydrate digestion takes place in the duodenum, the food from the stomach enters the duodenum and mix with digestive secretion from the pancreas, liver and gall bladder.