

1. What is nutrition?

* Nutrition is a science that interacts the nutrient other substance in food. In relation to maintain growth, reproduction, health and disease.

2. Macronutrient:

1. Carbon

2. Oxygen

3. Hydrogen

4. Nitrogen

5. Sulphur

6. Phosphorus

3. Definition of Autotrophs & Heterotrophs:

Autotrophs - Biosynthesis carbon source.

Heterotrophs - Reduced preformed organic molecules from other organisms.

4. Define Temperature:

* Temperature is a physical property of matter that quantitatively express hot and cold.

* Present in all matter which is the source of the occurrence of heat, a flow of energy.

5. 4 stages of bacterial growth curve:

1. Lag phase

2. Log phase

3. Stationary phase

4. Death or Decline phase.

6. Define Enzyme:

* Enzymes are biological catalyst that speed up the rate of the biochemical reaction.

* Most Enzymes are the dimensional globular proteins.

* Some species RNA species also act as Enzymes are called a ribozyme.

7. Co-enzyme:

* A substance that enhances the action of enzyme.

* Co-enzyme are small molecule.

* They are intermediate carriers of an atom or group of atoms allowing a reaction to occur.

* Ex: B-vitamin, carbohydrate, protein.

8. Co-factors :

* Co-factors is the non-protein molecules, which carries out chemical reaction that can be performed by standard 20 aminoacids.

Two types :

1. Organic co-factor

2. Inorganic co-factor.

9. Iso-enzyme :

* Isozymes also known as isoenzymes or more generally as multiple forms of enzymes.

* That differ in amino acid sequence but catalyze the same chemical reaction.

* These enzymes usually display different kinetic parameters.

Ex: different K_M values.

10. MME :

* MME - Metallomembrane endopeptidase.

* It is also known as membrane metalloendopeptidase.

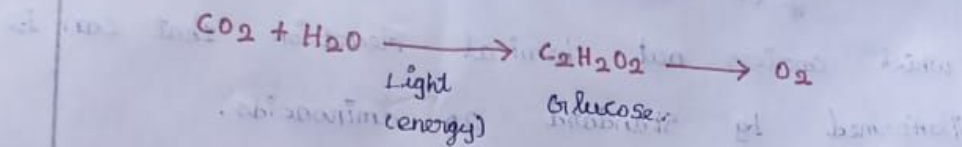
* MME is also called CALLA (Common Acute Lymphocytic Leukemia antigen).

11. Photosynthesis :

* Photosynthesis is the process by,

which certain organism use light energy

* To make sugar and oxygen gas from CO_2 and water.



12. Krebs' s cycle :

* The citric acid cycle (CAC) - also known as the TCA cycle (tricarboxylic acid cycle) or the Krebs cycle.

* IS a series of chemical reaction used by all aerobic organisms to release stored energy through the oxidation of acetyl - CoA.

* derived from carbohydrates, fats and proteins into adenosine triphosphate and carbon dioxide.

13. ATP :

* ATP - Adenosine triphosphate is an organic compound that provides energy to drive many process in living cells.

* Ex: muscle contraction, nerve impulse propagation...

* ATP is often referred to as the "molecular unit of currency" of intracellular energy transfer.

14. Anabolism

* The process by which energy and raw used to build macro molecules

and cellular structure.

* Anabolism - biosynthesis.

15. Catabolism :

* The process by which a living organism obtain its energy and raw material from nutrients

* catabolism - break down.

16. Tyrosine :

* Tyrosine is an amino acid that is naturally produced in the body.

* Non essential amino acid

* The tyrosine are the aromatic amino acid

* Phenyl alanine is converted to tyrosine.

17. Cysteine :

* Cysteine is an amino acid that can be synthesized by the body (or) consumed in certain food.

* They are soluble in water

* They are the molecular formula: $C_3H_7NO_2S$

18. Translation :

* In this step the nucleotide sequence of mRNA is translated into the amino acid sequence of polypeptide chain.

* They are involved many steps.

1. Activation of amino acid

2. Ribosome

3. Initiation of polypeptide

4. Elongation

5. Termination

19. Transcription :

* In transcription, RNA polymerase reads a DNA strand and produce an mRNA strand that can be further translation.

* In order to initiate transcription the DNA segment that is to be transcribed must be accessible.

20. peptide :

* Peptides are short polymer amino acid (monomers) linked by peptide bond.

* Amino acid are linked together by condensation reaction between carboxylic and amino group from two different amino acid.

* The amide bond formed is called peptide.

21. Anaerobic Respiration :

* Anaerobic Respiration is a form of Respiration which does not use oxygen.

* Elements other than oxygen are used for electron transport.

* E. coli use nitrates and fumaric acid for respiration.

22. Denitrification :

* Denitrification is the process that convert nitrate to nitrogen gas.

* Some denitrifying bacteria include species in the general.

1. Bacillus
2. Paracoccus
3. Pseudomonas.

23. Methanogenesis :

* Methanogenesis or biomethanation is the formation of methane by microbes known as methanogenesis.

* microbes capable of producing methane are called methanogens.

24. Fermentation :

* Fermentation is a metabolic process that converts sugar to acid, gas or alcohols.

* The word fermentation is derived from a word refers which mean to boil.

25. Oxidation:

* Oxidation is the loss of electrons or an increase in the oxidation state of an atom or an ion, or of certain atoms in a molecule.

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