NUTRITION IN PLANTS

1. a) K- Enzyme , sucrose, invertase

   L- Inhibitor

   b) Additional of sucrose/substance, Addition of enzyme, Optimum PH, Removal of products.

   c) Complete with substrate for active site of the enzyme.

2. a) Split water molecules/photolysis

   b) Glucose

3. Yellowing of leaves/stunted growth/chlorosis/lack of chlorophyll.

4. a) i) A and B -more active sites of enzymes available for a large number of molecules of substrate. There is increase in rates of reaction

   ii) B-C

   - Enzyme/substance are in equilibrium. All active sites are occupied hence rate of reaction is constant.

   b) Raising concentration of enzymes

   c) PH, temperature, inhibitors/cofactors.

5. a) Substances that activate enzymes

   b) Iron/Magnesium/Zinc/Copper.

6. - Magnesium,
   - Nitrogen
   - Iron

7. Xylem

- Transport water to photosynthesizing cells from stem
- Offer support to the lamina for maximum exposure to sun-light.

Phloem

- Transport manufactured food away from the leaf to create high concentration gradient.

8. Takes place in the grana of the chloroplast. Light is absorbed and used to split water molecules into hydrogen ions and oxygen, photolysis. Energy is formed and is stored in form of ATP.

9. a) i) Light stage-grana
   ii) Dark stage-stroma

   b) -Uses the energy formed or produced during light stage.
   -Uses the hydrogen ions produced in light stage for carbon dioxide fixation.

10. i) Cuticle -Transparent allowing light to penetrate.

    ii) Veins –Xylem vessel transport water to the photosynthesizing cells as it is a raw material

    Phloem - Transport manufactured food out of the leaf to create high concentration gradient.

11. a) To hydrolyse/break down the disaccharide (non-reducing sugar).

    b) Non-reducing sugar

    c) i) Condensation,
    ii) Hydrolysis

    d) i) Starch,

ii) Glycogen

12. i) Fatty acids and glycerol

ii) Form part of the cell membrane

- Provide insulation of bodies of animals
- A source of metabolic water.
- Provide energy in absence of carbohydrates

13. a) L - Blue-black

M -Yellow

N - Blue Black

b) Absorb carbon (IV) oxide in the jar.