Biology - FSC Part 1 Biology English Medium Chapter 11 Preparation

Q1. What is the function of Mg in chlorophyll molecule?

Ans 1: An atom of magnesium is present in the center of porphyrin ring and is coordinated with the nitrogen of each porphyrin ring.

Q2. Define photolysis and photophosphorylation.

Ans 1: Photolysis : The water splitting step photosynthesis that release oxygen is called photolysis.

Ans 2: Photophosphorylation: As electron moves down the electron transport chain their energy goes on decreasing and is used by thylakoid membrane to produce ATP.

Q3. What is cyclic phosphorylation? Give cause of its occurrence.

Ans 1: In cyclic ETC electron cycle back from primary electron acceptor to ferredoxin to the cytochrome complex and from there continue on the P_{700} chlorophyll.

Cause Cyclic electron flow takes place when the chloroplasts runs low on ATP for calvin cycle,the cycle slows down and NADPH accumulates in the chloroplast.

Q4. What is action spectrum?

Ans 1: The plots show relative effectiveness of different wavelength of light in arriving photosynthesis is called action spectrum of photosynthesis.

Q5. What are acessary pigments?State their role.

Ans 1: Acessary pigments are the substance which are additional present in the leaves they are orange,red or yellow colour. They absorb light and transfer the energy to chlorophyll a,which then starts the light reaction.It is generally believed that the order of energy transfer.

Q6. How action spectrum can be obtain?

Ans 1: Action spectrum can be obtained by illuminating plant with light of different wavelength or color and then estimating relative CO_2consumption or oxygen release during photosynthesis.

Q7. Define antenna complex of reaction center.

Ans 1: .The antenna complex has many molecule of chlorophyll a and b and carotenoids most of them are channeling the energy to reaction center,while carotenoids most of them channeling the energy to reaction center.While reaction center has one or more

molecule of chlorophyll a along with a primary electron acceptor and associated electron carrier of electron transport system.

Q8. What is the use of spectrophotometer?

Ans 1: An instruments called spectrophotometer is used to measure relative abilities of different pigments to absorb different wavelength of light.

Q9. What is porphyrin ring of a chlorophyll molecule?

Ans 1: Chlorophyll molecule has two parts head and tail.The head is complex porphyrin ring which is made up of four joined smaller pyrrole ring composed of carbon and nitrogen atoms,An atoms of magnesium is present in the central of porphyrin ring and is coordinated with the nitrogen of each pyrrole ring.

Q10. What is calvin Benson cycle?

Ans 1: The reaction of photosynthesis which takes place in the absence of light is called dark reaction.This reaction reduces the CO_2 by using products of light reaction i.e ATP and NADPH and carbohydrates are produces.