

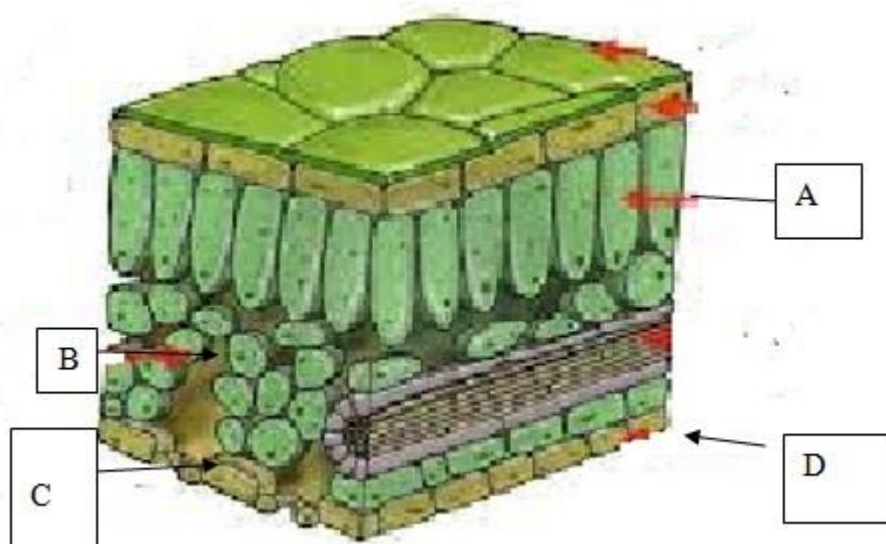
## CCT Weekly- Science Practice

### Life processes Photosynthesis

Photosynthesis is a biochemical process by which chlorophyll containing plant cells manufactures sugars using solar energy, carbon dioxide and water. Oxygen is liberated. Most of the photosynthesis occurs in leaves which are green in colour.

#### **Question 1**

The figure shows cross- section of a leaf.



- a) Identify the structures labelled A, B, C and D

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- b) Explain how the structure A is adapted to perform photosynthesis.

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#### **Question 2**

The pathway taken by a molecule of  $\text{CO}_2$  from the atmosphere to the site of photosynthesis is:

- (a) Stomatal aperture, intercellular space, mesophyll cell wall, chloroplast.
- (b) Stomatal aperture, epidermal cell, mesophyll cell, chloroplast.
- (c) Stomatal guard cell, intercellular space, mesophyll cell membrane, chloroplast.
- (d) Stomatal guard cell, intercellular space, phloem sieve tube, chloroplast. spongy mesophyll cell,

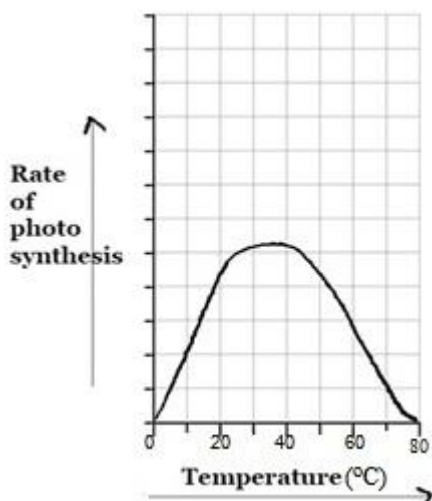
#### **Question 3**

In a plant cell, Chlorophyll pigment is located in:

- (a) chloroplast stroma
- (b) endoplasmic reticulum
- (c) mitochondrial matrix
- (d) the thylakoid membranes inside chloroplasts

#### Question 4

The graph below shows the relationship between photosynthetic rate and temperature



Which of the following statements correctly describe(s) the relationships shown on the graph?

- (i) Raising the temperature increase the kinetic energy of molecules involved in the process thereby increasing the rate of photosynthesis
- (ii) At temperatures over 40°C enzymes involved in the photosynthetic process are denatured
- (iii) chlorophyll pigment loses its structural organisation.

- (a) (i),(ii) and (iii)
- (b) (i) and (ii)
- (c) (ii) and (iii)
- (d) (ii)

#### Question 5

The Pitcher plant traps insects and also uses atmospheric CO<sub>2</sub> as a carbon source. Which of the following best describes the nutrition of this organism?

- (a) Autotrophic only
- (b) Heterotrophic only
- (c) Parasitic only
- (d) Both autotrophic and heterotrophic



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