



Quality Checkers  
Only way to fulfill your dreams

XI-SCI : Biology  
Photosynthesis,

DATE:

TIME: 1 hour 30  
minutes

MARKS: 25

SEAT NO:

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**Note:-**

1. All Questions are compulsory.
2. Numbers on the right indicate full marks.

**Section A**

**Q.1 Select and write the correct answer.**

**(4)**

1. In maize and wheat, the first stable products formed in bundle sheath cells respectively are  
A) OAA and PEPA      B) OAA and OAA  
C) OAA and 3 PGA      D) 3 PGA and OAA
2. For fixation of 6 molecules of CO<sub>2</sub> and formation of one molecule of glucose in Calvin cycle, requires  
A) 3 ATP and 2 NADPH<sub>2</sub>      B) 18 ATP and 12 NADPH<sub>2</sub>  
C) 30 ATP and 18 NADPH<sub>2</sub>      D) 6 ATP and 6 NADPH<sub>2</sub>
3. PS – I gets the de-energized electrons from  
A) water      B) plastoquinone  
C) plastocyanin      D) cytochrome f
4. If light is cut and CO<sub>2</sub> supply is continued, then which of the following substances will get disappeared from photosynthesizing algal cells?  
A) RUBP      B) PGAL  
C) RUMP      D) PGA

**Q.2 Answer the following.**

**(3)**

1. Does CAM plants have Kranz anatomy? Why?
2. The photosynthetic lamellae taken out from a chloroplast and suspended in a nutrient medium in the presence of CO<sub>2</sub> and light. Will they synthesize sugar or not?
3. Very Short Answer Questions :  
State Blackman's law of limiting factor.

**Section B**  
**Attempt any Four**

- Q.3 Write short note on : Photosystem I. **(2)**
- Q.4 Name the phases of CAM. **(2)**
- Q.5 Justify. All life on earth is 'bottled solar energy'. **(2)**
- Q.6 What is Reaction centre? **(2)**
- Q.7 What is light reaction? **(2)**
- Q.8 Short Answer Questions : **(2)**  
What is the advantage of having more than one pigment molecule in a photocentre?

**Section C**  
**Attempt any Two**

- Q.9 Long answer questions: (3)  
Why are the plants that consume more than the usual 18 ATP to produce 1 molecule of glucose favoured in tropical regions?
- Q.10 Compare C4 plants and CAM plants. (3)
- Q.11 Large number of gas bubbles are evolved during day time in a pond of water. (3)

**Section D**  
**Attempt any One**

- Q.12 Distinguish between Cyclic photophosphorylation and Non-Cyclic photophosphorylation. (4)
- Q.13 Describe Crassulacean Acid Metabolism. (4)