



# INDIAN SCHOOL DARSAIT

## DEPARTMENT OF BIOLOGY



Subject : Biology

Topic : Photosynthesis in  
Higher Plants

Date of worksheet : 7 - 8 -2017

Resource Person: Zehra Fatima

Date of Submission : \_\_\_\_\_

Name of the Student : \_\_\_\_\_

Class & Division : XI B

Roll Number : \_\_\_\_

S.No.	Questions	Marks
1 .	Carbon dioxide fixation occur in which part of the chloroplast?	1
2.	Name the end products of light reaction.	1
3.	Name two photosynthetic pigments belonging to Carotenoids	1
4.	Which photosystem can carry on phosphorylation independently?	1
5.	What is the other name for C <sub>4</sub> pathway?	1
6.	Which part of sunlight is most suitable for photosynthesis?	1
7.	Which compound acts as CO <sub>2</sub> acceptor in Calvin Cycle?	1
8.	State the number of ATP molecules required for synthesis of one molecule of glucose in C <sub>3</sub> and C <sub>4</sub> pathways.	1
9.	State two functions of accessory pigments found in thylakoids.	2
10.	Name the following: i)CO <sub>2</sub> acceptor in C <sub>3</sub> plants ii)First CO <sub>2</sub> fixation product in C <sub>4</sub> plants iii) CO <sub>2</sub> acceptor in C <sub>4</sub> plants iv) First CO <sub>2</sub> fixation product in C <sub>3</sub> plants	2
11.	Differentiate between C <sub>3</sub> and C <sub>4</sub> plants.	2
12.	Why does the rate of photosynthesis decline in the presence of continuous light?	2
13.	Why does photorespiration take place in plants? How does this process result in a loss to the plant?	3

14. Explain the factors that effect the rate of photosynthesis. 3

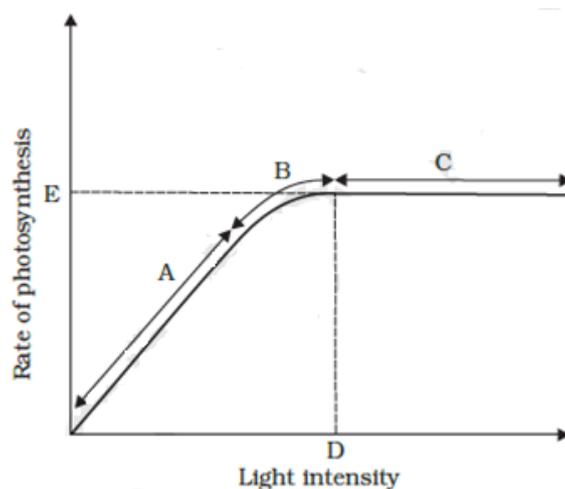
15. Differentiate between cyclic and non-cyclic photophosphorylation. 3

16. Following figure shows the effect of light on rate of photosynthesis. Based on the graph, answer the following questions : 3

a)At which point/s (A, B or C) in the curve is light a limiting factor?

b)What could be the limiting factor/s in region A?

c)What do C and D represent on the curve?



17. a)Explain the chemiosmotic hypothesis. 5

b)Schematically represent Non-cyclic photophosphorylation.

18. Describe C<sub>4</sub> pathway in a paddy plant. What are the adaptive advantages of this pathway to the plant? 5