

## Class Work

### Topic- Photosynthesis

#### Instruction:

- The answer hints are provided here. Elaborate according to marks.

Q. 1 to 5 are MCQ types

Ans Hint: Ans. in bold letters

1. Name the metal present in chlorophyll 'a' and 'b'?

A. Iron

B. Copper

C. Magnesium

**D. Manganese**

2. Name the structural unit of photosynthesis?

A. **Thylakoid**

B. Grana

C. Stroma

D. Chlorophyll

3. Rate of photosynthesis does not depend upon:

A. Quality of light

B. Intensity of Light

**C. Duration of Light**

D. Temperature

4. Quantasomes are found in:

A. Cristae of mitochondria

**B. Thylakoid membrane of chloroplasts**

C. Nucleus membrane

D. Lysosome

5. Which part of the leaf reflects back excess light?

A. Stomata

B. Guard cells

**C. Waxy cuticle**

D. Chlorophyll

6. Explain in detail the major steps of Photosynthesis. (3 marks)

Ans Hint:

Add points from the notes along with the following points:

- (i) Absorption of light energy by chlorophyll.
- (ii) Conversion of light energy to chemical energy and splitting of water molecules into hydrogen and oxygen.
- (iii) Reduction of carbon dioxide to carbohydrates.

Q. 7 to 13 short answer types (2 marks)

7. Why some plants have red leaves? How do they trap sunlight with this?

Ans Hint: Carotenoids (anthocyanin also); Different pigments absorb light of different wavelength and these act as accessory pigments to help chlorophyll.

8. What criteria do we use to decide whether something is alive?

Ans Hint: Cell metabolism, responsiveness, respiration etc.

9. What kind of modifications we generally found in desert plant's photosynthesis process?

Ans Hint: Stomata closed at morning; capture CO<sub>2</sub> at night.

10. For iodine test why do we perform alcohol treatment?

Ans Hint: To remove chlorophyll

11. Explain how stomatal aperture opening and closing are controlled.

Ans Hint: Water uptake and intake responsible.( Put Diagram)

12. What happen (to its photosynthetic activity) if we put a plant in white light?

Ans Hint: As it is mixture of all seven colours there from plants absorb red and blue colour for photosynthesis as it do pho. In these colour.

13. Where does the oxygen during photosynthesis come from?

Ans Hint: Cell water

Assertion –Reason Based Questions

Choose any one option

1. Both A and R are true and R is the correct explanation of A.
2. Both A and R are true but R is not the correct explanation of A.
3. A is true but R is false.
4. A is false but R is true.
5. Both A and R are false.

14. A: The only product of light reaction, required in dark reaction are  $\text{NADPH}_2$  and ATP.

R: Dark reactions occur in night only.

Ans Hint: 3

15. A: Plant cells generally have large vacuoles

R: It helps chloroplasts to work in a better way.

Ans Hint: 1