

Class : XI<sup>th</sup>  
Date :

Subject : BIOLOGY  
DPP No. : 1

## Topic :- Photosynthesis in Higher Plants

- If a chemical process is affected by more than one factors then its rate will be determined by
  - Two closely related factors
  - Only one factor, which is close to its minimal value
  - Only one factor, which is close to its maximum value
  - Only one factor, which is close to its appropriate value
- Temperature
  - CO<sub>2</sub> concentration
  - Chlorophyll arrangement
  - WaterAmong the given factors, identify the external factors that affects the rate of photosynthesis and correct option accordingly
  - I, II and IV
  - I, II and III
  - II, III and IV
  - I, III and IV
- Which activity is performed by PS-I in light reaction?
  - Reduction of NADPH
  - Reduction of NADP<sup>+</sup>
  - Oxidation of NADP<sup>+</sup>
  - Oxidation of NAD
- C<sub>4</sub> pathway for CO<sub>2</sub>-fixation was proposed by
  - Benson and associates
  - Arnon and associates
  - Rouhani et *al*,
  - Hatch et *al*,
- A scientist disrupted the chloroplast and separated the stroma from lamella. For fixing CO<sub>2</sub> he supplied stroma with
  - ATP
  - NADPH
  - GlucoseSelect the correct option
  - I and III
  - III and II
  - I and II
  - I, II and III
- CAM helps the plants in
  - Secondary growth
  - Disease resistance
  - Reproduction
  - Conserving water

7. PEP is present in  
 a) Mesophyll cell                      b) Bundle sheath cell                      c) Meristematic cell                      d) Both (a) and (b)
8. The absorption spectrum of chlorophyll  
 a) Shows that some colours of light are absorbed more than the others  
 b) Approximates the action spectrum of photosynthesis  
 c) Explains why chlorophyll is a green pigment  
 d) Has all the above properties
9. PGA as the first carbon dioxide fixation product was discovered in photosynthesis of  
 a) Bryophyte                      b) Gymnosperm                      c) Angiosperm                      d) Alga
10. In  $C_3$ -plants, the first stable compound formed after carbon dioxide fixation is  
 a) Phosphoglyceraldehyde  
 b) Malic acid  
 c) Oxaloacetic acid  
 d) 3-phosphoglycerate
11. Which chemical compound/molecule supplies electrons continuously to PS-II?  
 a)  $CO_2$                       b)  $O_2$                       c)  $H_2O$                       d) NADPH
12. Colour that we see in leaves is due to the presence of  
 I. Chlorophyll-*a*    II. Chlorophyll-*b*  
 III. Xanthophyll    IV. Carotenoid  
 a) I and II                      b) I, III and IV                      c) II, III and IV                      d) I, II, III and IV
13. Quantasomes occur on the surface of  
 a) Cristae                      b) Plasmalemma                      c) Nuclear envelope                      d) Thylakoids
14. First carbon dioxide acceptor in  $C_4$ - plants is  
 a) PEP                      b) PGA                      c) RuBP                      d) Pyruvic acid
15. In Calvin cycle, if one molecule of RuBP is carboxylated than how many PGA molecule will be formed?  
 a) 2                      b) 3                      c) 4                      d) 5
16. The type of carbon dioxide fixation seen in many succulent plant species is  
 a)  $C_4$ -pathway                      b)  $C_2$ -pathway                      c) CAM-pathway                      d)  $C_3$ -pathway
17. Water stress causes the stomata to ...A... hence reducing the ...B... availability.  
 Here A and B refer to  
 a) A-open; B- $H_2O$                       b) A-close; B- $H_2O$                       c) A-close; B- $CO_2$                       d) A-open; B- $CO_2$

18. Photosynthesis cannot continue for long if during light reaction, only cyclic photophosphorylation takes place. This is because
- a) Only ATP is formed,  $\text{NADPH}^+ + \text{H}^+$  is not formed
  - b) Photosystem-I stops getting excited at a wavelength of light beyond 680 nm
  - c) There is unidirectional cyclic movement of the electrons
  - d) There is no evolution of oxygen
19. Light reaction of photosynthesis occurs inside
- a) Stroma
  - b) Grana
  - c) Endoplasmic reticulum
  - d) Cytoplasm
20. Bundle sheath cells are rich in which enzyme
- a) PEP carboxylase
  - b) Malate dehydrogenase
  - c) Phosphofructokinase
  - d) RuBisCo

PEE