DPP
DAILY PRACTICE PROBLEMS

Class : XIth **Subject : BIOLOGY**
Date : **DPP No. : 4**

Topic :- Photosynthesis in Higher Plants

1. ...A... plants have the higher temperature optimum than ...B... the plants adapted climate
Here A and B refer to
a) A-Desert; B-Tropical
b) A-Temperature; B-Tropical
c) A-Tropical; B-Temperature
d) A-Desert; B-Temperature

2. Which is not correct for ancient plants?
a) They have photosynthetic pigment
b) They are primitive algae
c) They use H_2S as hydrogen source
d) They release oxygen as byproduct

3. Which of the following cell organelles is associated with photorespiration?
a) Mitochondria b) Peroxisome c) Chloroplast d) All of these

4. The protons are transported across the thylakoid membrane into the lumen because
a) Electrons are transferred to hydrogen carrier is which is present on inner membrane
b) Electrons are transferred to electron carrier
c) Electrons are transferred to intermembrane space
d) Electrons are transferred to hydrogen carrier, which is present outer side of membrane

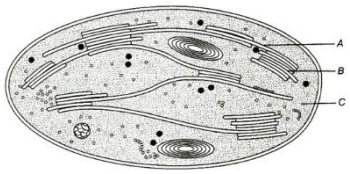
5. The light phase of photosynthesis is called
a) Hill reaction
b) Photo action
c) Pigment action
d) Chlorophyllous process

6. Which of the following statements are correct?
I. Light reaction occurs in stroma
II. Light reaction occurs in grana
III. Dark reaction occurs in stroma
IV. Dark reaction occurs in grana
Choose the correct option
a) I and II b) II and IV c) III and IV d) II and III

7. In photosynthesis, what does occur in PS-II?
   a) It takes longer wavelength of light and $e^-$from H_2O
   b) It takes shorter wavelength of light and e^- from H_2O
   c) It takes longer wavelength of light and e^- from NADP
   d) It takes shorter wavelength of light and e^- from NADP

8. Cyclic-photophosphorylation results in the formation of
   a) NADPH
   b) ATP and NADPH
   c) ATP, NADPH and oxygen
   d) ATP

9. Identify *A*,*B* and *C* in given figure



   a) A-Stroma wall, B-Grana, C-Stroma
   b) A-Stroma lamella, B-Grana, C-Stroma
   c) A-Stroma lamella, B-Stroma, C-Grana
   d) A-Starch grain, B-Stroma, C-Grana

10. In photosystem II, the reaction centre chlorophyll-*a* absorbs ...A... nm wave length of red light causing electrone to become excited and jump into an orbit farther from the atomic nucleus. These electrons are picked up by an ...B..., which passes them to an electron transport system constisting of ...C...
    Pick the right choice for A, B and C
    a) A-680 nm, B-electron donor, C-cytochromes
    b) A-780 nm, B-electron acceptor, C-cytochromes
    c) A-680 nm, B-electron acceptor, C-cytochromes
    d) A-780 nm, B-electron donor, C-cytochromes

11. Which of the following statements with regard to photosynthesis is/are correct?
    I. In C_4-plants, the primary CO_2 acceptor is PEP.
    II. In the photosynthetic process, PS-II absorbs energy at or just below 680 nm.
    III. The pigment that is present in the Pigment System-I isP_{683}.
    a) II and III only
    b) I only
    c) III only
    d) I and II only

12. Which one is correct for C_4-plants?

	Mesophyll	**Bundle Sheath**
a)	PEPcase C_4-cycle	RuBisCo C_3-cycle
b)	PEPcase Calvin cycle	RuBisCo C_4-cycle
c)	RuBisCo C_4-cycle	PEPcase C_3-cycle
d)	RuBisCo C_2-cycle	PEPcase C_3-cyce

13. Synthesis of food in C_4-pathway occurs in chlorophyll of
    a) Guard cells
    b) Bundle sheath cells
    c) Spongy mesophyll cells
    d) Palisade cells

14. Which one is the correct reaction of photosynthesis?

a) $6CO_2 + 6H_2O \xrightarrow[\text{Chlorophyll}]{\text{Light}} 6O_2 + C_6H_{12}O_6$

b) $6CO_2 + 12H_2O \xrightarrow[\text{Chlorophyll}]{\text{Light}} + C_6H_{12}O_6 + 6O_2 + 6H_2O$

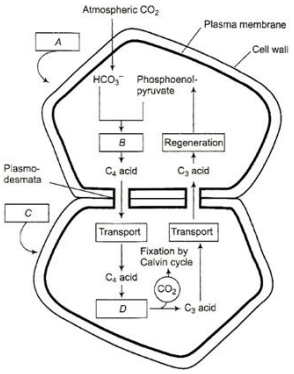
c) $C_6H_{12}O_6 + 6O_2 + 6H_2O \xrightarrow[\text{Chlorophyll}]{\text{Light}} 6CO_2 + 12H_2O + \text{Energy}$

d) $C_6H_{12}O_6 + 6O_2 \xrightarrow[\text{Chlorophyll}]{\text{Light}} 6CO_2 + 6H_2O + \text{Energy}$

15. I. Lysosome II. Chloroplast
III. Peroxisome IV. Mitochondria
Which of the following organelles is/are not related to photorespiration?
Choose the correct option

a) Only I b) I, IV and II c) I, III and IV d) Only IV

16. Identify A, B, C and D in the given figure and choose the correct option accordingly



a) A-Mesophyll cell, B-Fixation, C-Bundle sheath cell, D-Decarboxylation
b) A- Mesophyll cell, B-Decarboxylation, C-Bundle sheath cell, D-Fixation
c) A-Chloroplast, B-Decarboxylation, C-Bundle sheath cell, D-Fixation
d) A-Chloroplast, B-Fixation, C-Bundle sheath cell, D-Fixation

17. In photosynthesis, action and absorption spectrum were related by

a) Von Helmont b) Englemann c) Emerson d) Lovoisier

18. Which of the following is the formula of chlorophyll-*a*?

a) $C_{55}H_{70}O_2N_4Mg$ b) $C_{55}H_{72}O_5N_4Mg$ c) $C_{55}H_{70}O_5N_4Mg$ d) $C_{55}H_{72}O_2N_4Mg$

19. Oxygen which is liberated during photosynthesis, comes from

a) Carbon cells b) Spongy cells c) Palisade cells d) Bundle sheath cells

20. Photosynthetic organisms remove …… of carbon/year if assumed that the photosynthetic organisms use 0.1% of incident visible light

a) 0.1015 tonn b) 0.2015 tonn c) 0.1123 tonn d) 0.03 tonn