DPP
DAILY PRACTICE PROBLEMS

Class : XIth **Subject : BIOLOGY**
Date : **DPP No. : 8**

Topic :- Photosynthesis in Higher Plants

1. Which of the following characteristics out of I, II, III, IV are exhibited by C_4-plant?
   I. Kranz anatomy
   II. Oxaloacetic acid
   III. Large bundle sheath cells
   IV. Found only in desert area
   a) I, II and III b) I, II and IV c) II, III and IV d) III, I and IV

2. In C_4-plants, the bundle sheath cells
   a) Have cells density of chloroplast b) Are rich in PEPcase
   c) Have large number of Rubisco d) Are large sized having transferase

3. The Z scheme of electron transport is
   a) Cyclic photophosphorylation b) Non-cyclic photophosphorylation
   c) Both (a) and (b) d) Where only photosystem pigment-I is involved

4. Photophosphorylation in chloroplast is most similar to the
   a) Mitochondrial substrate level phosphorylation
   b) Mitochondrial oxidative phosphorylation
   c) Mitochondrial hydrolysis of H_2O
   d) All of the above

5. I. Chlorophyll-*a*
   II. Chlorophyll-*b*
   III. Xanthophyll
   IV. Carotenoid
   Separate the given pigments into the accessory and main pigments involved during photosynthesis

	Main pigment	**Accessory Pigment**
a)	I	II, III, IV
b)	II, III and IV	I
c)	II and III	I and IV
d)	I and IV	II and III

6. In photosynthesis, energy from light reaction to dark reaction is transferred in the form of
   a) ADP b) ATP c) RuBP d) chlorophyll

7. RuBisCo performs oxygenase activity at
   a) Low CO_2 concentration
   b) High CO_2 concentration
   c) High H_2O concentration
   d) Low H_2O concentration

8. Primary acceptor of CO_2 in C_4-cycle is
   a) PGA
   b) PEP
   c) RuBP
   d) OAA

9. In bundle, sheath cells are the large cells around the
   a) Vascular bundles of C_4-plants
   b) Vascular bundles C_3-plants
   c) Vascular bundles of C_2-plants
   d) All of the above

10. Which of the following is the first compound that accepts carbon dioxide during dark phase of photosynthesis?
    a) NADP
    b) RuBP
    c) Ferredoxin
    d) Cytochrome

11. Number of carboxylation occurs in Calvin cycle is
    a) Zero
    b) One
    c) Two
    d) Three

12. Plants adapted to low light intensity have
    a) Larger photosynthetic unit size than the sun plants
    b) Higher rate of carbon dioxide fixation than the sun plants
    c) More extended root system
    d) Leaves modified to spines

13. If green plants are incubated with O^{18} labelled water, which molecule (photosynthesis product) will become radioactive from the given options
    a) O_2
    b) H_2O
    c) CO_2
    d) ATP

14. The first action spectrum of photosynthesis was described by Engelman was related to
    a) Algae
    b) Mint plant
    c) Bacteria
    d) Bryophytes

15. To form one molecule of glyceraldehydes phosphate in Calvin cycle
    a) 9 ATP and 36 NADPH are required
    b) 6 ATP and 6 NADPH are required
    c) 3 ATP and 3 NADPH are required
    d) 9 ATP and 6 NADPH are required

16. Products of light reaction are ATP and O_2, of these, B… diffuses out of the chloroplast, while ATP and NADPH are used to derive the process leading to the synthesis of food more accurately, …C…,
    What does the blanks A-C refers here?
    a) A-NADP; B-O_2; C-lipid
    b) A-$NADPH_2$; B-O_2; C-amino
    c) A-NAD^+; B-O_2; C-sugars
    d) A-NADPH + H^+; B-O_2; C-sugars

17. Light compensation point is the point where
    a) Gaseous exchange occurs in photosynthesis
    b) Gaseous exchange do not occur in photosynthesis
    c) Gaseous exchange reduce in photosynthesis
    d) Light intensity become appropriate for photosynthesis

18. During the dark reaction, the acceptor of CO_2 is
    a) $NADPH_2$ b) RuBP c) H_2O d) CO_2

19. During photorespiration, the oxygen consuming reaction(s) occur in
    a) Stroma of chloroplasts and mitochondria
    b) Stroma of chloroplasts and peroxisomes
    c) Grana of chloroplasts and peroxisomes
    d) Stroma of chloroplasts

20. Which one of the following concerns Photophosphorylation?
    a) ADP + Inorganic $PO_4 \rightarrow$ ATP
    b) AMP + Inorganic $PO_4 \xrightarrow{\text{Light energy}}$ ATP
    c) ADP + AMP $\xrightarrow{\text{Light energy}}$ ATP
    d) ADP + Inorganic $PO_4 \xrightarrow{\text{Light energy}}$ ATP