Subject : Botany
Paper name : Plant metabolism, Biochemistry, Thermodynamics.
Paper No. : BOT/VI/CC/21
Semester : 6th

A. Multiple choice

1. Amylase can be synthesized in the presence of enzyme
   a) Glycerophosphatase
   b) Phosphate dehydrogenase
   c) Acetyl-CoA carboxylase
   d) Starch phosphorylase

2. The microorganism involved in the synthesis of cellulose is
   a) Acetobacter
   b) Rhizobium
   c) Lactobacillus
   d) Corynobacterium

3. Each an every steps of synthesis of fatty acids, fatty acid chain is increase by
   a) One carbon atom
   b) Two carbon atom
   c) Three carbon atom
   d) Four carbon atom

4. Which one of the following is asymbiotic nitrogen fixing bacteria
   a) Casuarina
   b) Purshia
   c) Clostridium
   d) Cerococarpus

5. The key substance in the biosynthesis of pyrimidine is
   a) Glutaric acid
   b) Orotic acid
   c) Succinic acid
   d) Uric acid

6. The bonds which are the characteristic of the primary structure of protein are
   a) Covalent bond and disulphide
   b) Covalent bond and monosulphide
   c) Hydrogen bond and disulphide
   d) Hrydrogen bond and monosulphide

7. Which of this is activated by denaturation?
   a) Allosteric inhibition
   b) Competitive inhibitor
   c) Irreversible inhibitor
   d) None of these

8. Enzymes, hormones and vitamins have one thing in common
   a) All are protein
   b) All are synthesized in organism
   c) All enhance oxidative mechanism
   d) All aid in regulating metabolism

9. Coenzymes FMN and FAD are derived from vitamin:
   a) C
   b) B_6
   c) B_1
   d) B_2

10. Seed dormancy is due to
    a) Ethylene
    b) Abscisic acid
    c) IAA
    d) Starch

11. Phototropic curvature is uneven distribution of:
    a) Auxin
    b) Gibberellin
    c) Phytochrome
    d) Cytokinin

12. Natural cytokinins are synthesized in tissues that are:
    a) Dividing rapidly
    b) Senescent
    c) Storing food material
    d) Differentiating

13. Cell elongation in iternodal regions of the green plants takes place due to
    a) Cytokinin
    b) Ethylene
    c) Gibberelins
    d) Indole acetic acid

14. Which one of the following is the precursor for the biosynthesis of ethylene?
    a) Alanine
    b) Asparagine
    c) Tyrocine
    d) Methionine

15. Proteins were named by
    a) Flemming
    b) Sanger
    c) Berzelius
    d) Kunhe

16. In photosynthesis, photolysis of water is used in
    a) Reduction of NADP
    b) Oxidation of NADP
    c) Oxidation of FAD
    d) None of the above

17. Pigments of PS I is occurred in
    a) Appressed part of granal thylakoid
    b) Stromal thylakoid and non-appressed part of granal thylakoid
    c) Both appressed and non-appressed part of granal thylakoid
    d) Stroma

18. Photophosphorylation means
    a) Formation of ATP from ADP
    b) Formation of NADP
    c) Formation of ADP from ATP
    d) Formation of PGA

19. Stomata of CAM plants
    a) Are always open
    b) Open during the day and close at night
    c) Open during the night and close during the day
    d) Never open

20. In electron transport system in terminal oxidation the cytochrome, which donate electron to 0_2 is
    a) Cytochrome *b*
    b) Cytochrome *a*
    c) Cytochrome a_3
    d) Cytochrome *c*

21. SI unit of enthalpy is
    a) Joule/kg
    b) Joule/K
    c) Joule/kgK
    d) K/kg

22. First law of thermodynamics deals with
    a) Conservation of mass
    b) Conservation of momentum
    c) Conservation of energy
    d) Conservation of pressure

23. An increase in enthalpy leads to an increase in
    a) Internal energy
    b) pressure
    c) Mass
    d) Volume

24. The entropy of isolated system can never
    a) Increase
    b) Decrease
    c) Be zero
    d) None of the above

25. Second law of thermodynamics defines
    a) Heat
    b) Work
    c) Enthalpy
    d) Entropy

Fill in the blanks

1. In the synthesis of amino acids pyruvate is the precursor for _____
2. DNA unwinding is done by _____
3. In cells fats are stored in _____
4. Apoenzyme and coenzyme collectively constitute _____
5. Inorganic part of enzyme is called _____
6. Enzyme which convert starch to maltose is _____
7. Hormone that induces cell division in cell is _____
8. Leaf fall starts when the amount of _____decreases.
9. Naturally occurring growth inhibitor is _____
10. CO_2 is fixed in _____ reaction.
11. ATP and NADPH is the _____ power in photosynthesis.
12. In cyclic-photophosphorylation _____ is converted into NADPH
13. In _____ process, no heat is exchanged with surroundings.
14. Third law of thermodynamics state that for entropy to approach the constant the temperature approach _____
15. _____ is the amount of heat absorbed by the system to cause a change in the system.

KEY ANSWER

Multiple Choice Questions:

1. D
2. A
3. B
4. C
5. B
6. A
7. A
8. D
9. D
10. B

11. A
12. B
13. C
14. D
15. C
16. A
17. B
18. A
19. C
20. C
21. A
22. C
23. A
24. B
25. D

Fill in the blanks :

1. Alanine
2. Helicase
3. Spherosome
4. Holoenzyme
5. Prosthetic group
6. Maltase
7. Auxin
8. Auxin
9. ABA
10. Dark
11. Assimilatory
12. NADP
13. Adiabetic
14. Absolute zero
15. Enthalpy