

## Competitive Exams: Botany MCQs (Practice-Test 91 of 104)

1. In overall photosynthetic pathway, for one molecule of  $O_2$  liberated eight light quanta are required two molecules of  $NADPH_2$  are formed. Besides this, certain amount of energy is also released along with electron transport. This energy is liberated as
  - a. 2 ATP molecules
  - b. 8 ATP molecules
  - c. 3 ATP molecules
  - d. 4 ATP molecules
2. The diagram given below shows the relation between light intensity and  $CO_2$  concentration on the rate of photosynthesis. Which one of the following explains the diagram correctly?
  - a. At low intensity, the light-dependent reaction is rate limiting but at high light intensity, the light-dependent reaction involving  $CO_2$  is rate limiting
  - b. The number of chlorophyll molecules prevent the rate of photosynthesis from increasing above a certain limit
  - c. Photosynthesis is independent of light intensities provides there is no total darkness
  - d. Chlorophyll responds equally to light intensities and  $CO_2$  concentrations, thereby limiting the rate of photosynthesis
3. Consider the following statements: Conversion of  $N_2$  to  $NH_4$  in all the organisms studied thus far requires
  - a. ATP
  - b. NADP
  - c. Ferredoxin
  - d. NADPH

Of these statements

- a. 2 and 4 are correct
- b. 3 and 4 are correct

- c. 1 and 2 are correct
  - d. 1 and 3 are correct
4. Which one of the following graphs best represents the effect of substrate. Concentration on the rate of enzyme reaction?
5. Which of the following enzymes are located in the cytoplasm?
- a. Enzymes of glycol sis
  - b. Enzymes of hexose's monophosphate shunt
  - c. Enzymes of oxidative phosphorylation

Select the correct answer using the codes given below:

- a. 1, 2 and 3
  - b. 1 and 3
  - c. 2 and 3
  - d. 1 and 2
6. During the glyoxylate cycle, four-carbon oxaloacetate is generated from two-carbon acetate. The correct sequence in which the intermediate compounds appear from citrate is
- a. Citrate, succinate, fumarate, glyoxylate
  - b. Citrate, fumarate, glyoxylate, malate
  - c. Citrate, isocitrate, glyoxylate, malate
  - d. Citrate, isocitrate, malate, glyoxylate
7. Loss of water taken place through
- a. Stomata, cell wall of mesophyll cells and hydathodes
  - b. Stomata and cell wall of mesophyll cells
  - c. Stomata and hydathodes
  - d. Cell wall of mesophyll cells and hydaihodes
8. Consider the following statements: Osmosis is a process of transport of water across a semi permeable membrane
- a. Down the water potential gradient.

- b. Up the water potential gradient
- c. Actively
- d. Passively

Of these statements

- a. 1 and 3 are correct
- b. 2 and 3 are correct
- c. 2 and 4 are correct
- d. 1 and 4 are correct

9. Which List I with List II and select the correct answer using the codes given below the lists

List-I (Essential elements)

- a. Boron
- b. Copper
- c. Iron
- d. Zinc

List-II (Deficiency symptoms)

- a. Die-back disease
- b. Interregional chlorosis
- c. Little leaf disease
- d. Terminal leaf necrosis

**A B C D**

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- a. 1 4 3 2
- b. 1 4 2 3
- c. 4 1 3 2
- d. 4 1 2 3

10. The opening and closing of stomata in leaves of mesosperic plants is regulated by

- a. Changes in CO<sub>2</sub>, K<sup>+</sup> ions, and ABA concentration with simultaneous changes in the turgidity/flaccidity of guard cells

- b. Changes in the starch-sugar concentration in the guard cell
- c. Changes in the H + concentration in the guard cells
- d. Differential thickening of walls of the guard cells.

11. Consider the following statements: The genetic code is said to be degenerate and universal which means that

- a. Amino acids may have more than one cod on:
- b. All Amino acids have than one cod on:
- c. Co dons are common for higher and lower organisms.

Of these statements

- a. 2 and 3 are correct
- b. 1 and 3 are correct
- c. 3 alone is correct
- d. 1 alone is correct

12. In relation to double helical bacterial DNA, match List I (Parameter) with List II (Value) and select the correct answer using the codes given below the lists:

List-I

List-II

- |  |          |
|--|----------|
| a. Diameter of the helix               | a. 34A'  |
| b. Distance between two adjacent bases | b. 20A'  |
| c. Distance between two complete turns | c. 3A'   |
| d. Length of the hydrogen bond         | d. 3.4A' |

**A B C D**

- a. 1 3 2 4
- b. 2 3 1 4
- c. 1 4 2 3
- d. 2 4 1 3

13. In the following flow-chart, the processes labeled X and Y are respectively

- a. Transduction and transcription
- b. Transcription and translation
- c. Translation and transcription
- d. Transcription and transduction

14. To which one of the following chemical groups does lignin belong?

- a. Carbohydrates
- b. Porphyries
- c. Alkaloids
- d. Phenols

15. Consider the following statements about arylterpenoids

- a. They are secondary metabolic plant products
- b. They are tetraterpenoids.
- c. They are formed from the basic isoprene units.

Of these statements

- a. 1, 2 and 3 are correct
- b. 2 and 3 are correct
- c. 1 and 3 are correct

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d. 1 and 2 are correct