

Bago University
Department of Botany
Second Semester Examination, September, 2019

Third Year (B.Sc.)
Botany Specialization
Answer All Questions

Bot.3109
Plant Physiology II
Time allowed: (3) Hours

I. Determine whether each statement is TRUE or FALSE.

1. The process of photosynthesis takes place in the chloroplast.
2. The site of photosynthesis is the thalokoid layer.
3. Plants use only the Calvin cycle for fixing the CO₂ from air.
4. In aerobic respiration O₂ is the first electron acceptor.
5. Cellular respiration occurs in mitochondria.
6. Mitochondria are involved in the anabolism of photosynthesis zing leaves.
7. Oxygen can affect plant photosynthesis.
8. Respiration typically increases with temperature.
9. Glucose is most commonly cited as the substrate for metabolism.
10. The membrane are made up of phospholipids and proteins..

(10 marks)

II. Write correct word to complete the following sentences.

1. Aerobic bacteria use a number of different terminal -----.
2. The alternative oxidase is resistant to inhibition by the poison -----.
3. Respiratory chain is a system in cristae of -----.
4. O₂ is the terminal acceptor of electron in ----- phosphorylation.
5. Plant experience oxygen-deficit when ----- with water.
6. Several fungal toxin and antibiotic also inhibit -----.
7. Transpiration accounts for approximately 10% of all ----- water.
8. Heaves and green shoot are the principal organs of -----.
9. Turgidity is also important for the function of ----- cells.
10. Development is defined as sum total growth and -----.

(10 marks)

III. Answer all questions.

1. What is energy currency of cell?
2. Define intermolecular respiration.
3. What is transition reaction?
4. Define reductase.
5. What is meant by photoperiodism?

(10 marks)

IV. Answer all questions.

1. Explain the term respiration.
2. Briefly outline the oxygen in differentiated tissue and organ.
3. Summarize account on terminal oxidase and reductase.
4. Give fully label diagram of major pathway of respiration metabolism in plant cells.

(20 marks)

V. Answer any three questions.

1. Mention about C₃ C₄ intermediate photosynthesis.
2. List different tissue and organs respire rate .Explain any two.
3. Describe the function of mitochondria with fully label diagram.
4. Give the table of factors affect the rater of transpiration.
5. Discuss the Properties of Macronutrients in plants.

(30 marks)