

**Avinashlingam Institute for Home Science and Higher education for Women  
(Deemed to be University) Coimbatore-641043  
Bachelor's Degree examination-November 2018  
V Semester**

**Class: III UG**

**Major: Biochemistry and Biotechnology**

**15BBCC12-Plant Biochemistry**

**Part-A**

**Time: 3 Hours**

**Maximum Marks: 100**

**10x1=10**

**Choose the Correct answer**

1. Who was the first to study the influence of light during photosynthesis?  
a) Van Niel      b) Blackmann      c) Warburg      d) J. Ingenhouse
2. The site of light reactions of photosynthesis is  
a) Grana      b) Stroma      c) thylakoids      d) Both (a) and (b)
3. What ultimately occurs during respiration?  
a) Breakdown of ATP      b) synthesis of ATP      c) Capture of solar energy  
d) Electron transport
4. Mitochondria are self replication organelles as they have  
a) Thylakoids      b) Oxysomes      c) Ribosomes      d) DNA
5. Which of the following is used to determine the rate of transpiration in plants?  
a) Barometer      b) Auxanometer      c) Potometer      d) Porometer
6. Rate of transpiration increases with an increase in  
a) Carbondioxide concentration      b) root shoot ratio  
c) Atmospheric humidity      d) Temperature
7. Which is produced during water stress that brings stomatal closure?  
a) Ferulic acid      b) Abscisic acid      c) Ethylene      d) Coumarin
8. Biotic stress is a stress that occurs as a result of damage done to an organism by  
a) Drought      b) Living organisms      c) salinity      d) Temperature
9. Auxin transport is  
a) Polar      b) Nonpolar      c) Symplast      d) apoplast
10. Name the plant hormone which is responsible for ripening of fruits  
a) Auxins      b) Cytokinins      c) NAA      d) Ethylene

**Part- B**

**5x6=30**

**Answer the following**

**Answer should not exceed 200 words or two pages**

11.a Briefly discuss light and dark reactions

(Or)

11.b Describe the stages in calvin cycle.

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- 12.a) Briefly discuss CAM Photosynthesis  
(Or)  
12.b) Write notes on glycolysis
13. a) Define transpiration? List the types of transpiration  
(Or)  
13.b) Write notes on turgor pressure
- 14.a) Give an account on biotic stress in plants  
(Or)  
14.b) What are plant secondary metabolites? How are they produced?
- 15.a) What are cytokinins? Give examples  
(Or)  
15b) Describe the functions of Abscisic acid

**Part-C**

**5×12 = 60**

**Answer the following**

**Answer should not exceed 700 words**

- 16.a) Explain the photosynthetic apparatus in detail  
(Or)  
16.b) Give a detailed account on photophosphorylation
- 17.a) Describe in detail about Tricarboxylic acid (TCA) cycle  
(Or)  
17.b) Describe electron transport chain in detail
- 18.a) Describe the process of phloem loading and unloading  
(Or)  
18.b) Describe the theories involved in explaining the mechanism of water translocation process.
- 19.a) Describe the biosynthesis of terpenes  
(Or)  
19. b) Describe the insights of abiotic stress response in plants. List its stress factors.
- 20.a) Explain ethylene biosynthetic pathway in detail  
(Or)  
20.b) Describe in detail about phytohormones and their role in plant growth

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