



Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination - January 2021
V Semester

Class : III UG
Major : Botany

Time : 3 Hours
Max. Marks : 100

18BBOC16 Plant Physiology and Biometrics

PART A
Choose the Correct Answer

10 x 1 = 10

- The hydrostatic opening of stomata is due to
 - Low water potential in mesophyll cells
 - Movement of water into guard cells
 - Movement of K⁺ ion into guard cells
 - Decreased concentration of ABA.
- Wilting of a plant is a result of excessive
 - Transpiration
 - Absorption
 - Photosynthesis
 - Respiration
- In C₃ and C₄ plants primary carboxylation takes place with the help of
 - PEP Carboxylates and pyruvate carboxylates
 - RUBP carboxylates and PEP carboxylates
 - PEP carboxylates and RUBP carboxylates
 - RUBP carboxylates and pyruvic carboxylates
- The primary acceptor of CO₂ in Photosynthesis is
 - Ribulose 5-Phosphate
 - Ribosec. 3- Phospho Glycerated.
 - Ribulose 1,5 – Biphosphate
 - Phosphoenopyruvate
- Among the following which hormone can induce flowering in short day plants grown under long duration of light
 - Auxin
 - Cytokinin
 - Abscisic acid
 - Gibberellic acid
- Glycolysis is also known as
 - EMP pathway
 - TCA pathway
 - Carbon sequestration
 - None of the above
- Non- directional movements of plant parts in response to stimuli are called
 - Tropic movements
 - Tactic movements
 - Nastic movements
 - None of the above
- Phytochrome is a photosensitive pigment involved in
 - Geotropism
 - Phototropism
 - Photoperiodism
 - Photorespiration
- Standard deviation is the square of
 - Mode
 - Standard error
 - Regression
 - Variance
- The fundamental statistical indicators are
 - Mean
 - Median
 - Mode
 - Variance

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

11.a. Give an account on active and passive absorption.

(or)

11.b. Write the significance of transpiration.

12.a. Differentiate cyclic and non-cyclic photophosphorylation.

(or)

12.b. List out the significance of photosynthesis.

13.a. Describe Glycolysis.

(or)

13.b. What is respiratory quotient? Explain.

14.a. Comment on Auxins.

(or)

14.b. Write short notes on Vernalisation.

15.a. Define mean, median and mode.

(or)

15.b. Explain the methods of collection of data.

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

16.a. Write an essay of Ascent of sap.

(or)

16.b. Describe the mechanism of stomatal opening and closing.

17.a. Explain Calvin's cycle.

(or)

17.b. What is CAM pathway? Explain in detail.

18.a. Give an account on Krebs's cycle.

(or)

18.b. Write the pentose phosphate pathway and its significance.

19.a. Comment on photoperiodism.

(or)

19.b. Discuss about the plant movement.

20.a. Differentiate standard deviation and standard error.

(or)

20.b. Describe the various method of graphic representation of data.
