1B4A25144 (Pages : 1) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Botany Degree Examination, April 2025

BBT4B04 – Methodology and Perspectives in Plant Science

(2022 Admission onwards)

Time: 2 hours Max. Marks : 60

SECTION A

(Answer all questions, each question carries 2 marks. Ceiling: 20 Marks)

1. What are different types of Citations?
2. Write a note on Inflibnet?
3. Define Null hypothesis.
4. Write a note on Regression.
5. What is Sampling? Write its significance.
6. Define Molarity.
7. What is the principle of Photometry?
8. Write a note on Ion Exchange Chromatography.
9. Write the significances of Buffer solutions in biological systems.
10. What is CRAF?
11. What are Dyes? Give examples.
12. Explain the working principle of Electron Microscope.

SECTION B

(Answer all questions, each question carries 5 marks. Ceiling: 30 Marks)

13. Write a detailed note on Scientific observations.
14. Write a note on Central tendency.
15. Explain *chi* square test. Give one example.
16. Define spectrophotometer . Explain its working.
17. Explain the principle and applications of Centrifugation.
18. What is TEM? Differentiate TEM from SEM.
19. Write a note on Fixatives by citing examples.

SECTION C

(Answer any one question, each question carries 10 marks. 1 x 10 = 10 Marks)

20. Write an essay about Data representation in biological research.
21. Explain the steps involved in Paraffin method.

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Botany Degree Examination, April 2025

BBT4C04 – Plant Physiology, Ecology & Genetics

(2022 Admission onwards)

Time: 2 hours Max. Marks : 60

SECTION A

(Answer all questions, each question carries 2 marks. Ceiling 20 marks)

1. Explain Krantz anatomy
2. Define photoperiodism and vernalisation.
3. What is absorption and action spectrum?
4. Differentiate between dominance and epistasis.
5. Enumerate different phases in a sigmoid curve
6. Differentiate between biotic and abiotic factors
7. Give four physiological changes that happens during senescence
8. What are Mendel's postulates based on monohybrid cross?
9. How the abscission layer is formed ? Give its importance in a plant life.
10. Give four differences between mitochondrial respiration and photorespiration
11. What is the importance of haustoria in ecological adaptations?
12. What is transpiration pull and its significance in plant physiology?

SECTION B

(Answer all questions, each question carries 5 marks. Ceiling 30 marks)

13. Explain the various laws of Mendel
14. Cite five differences between C3 and C4 cycle.
15. Point out the ecological adaptations of hydrophytes.
16. Enumerate the physiological functions of auxins and gibberellins
17. Briefly explain cyclic and non-cyclic photophosphorylation
18. Give an account on the seed dormancy with its causes and method to overcome.
19. Give a note on the complementary gene action along with its molecular mechanism

SECTION C

(Answer any one question, each question carries 10 marks. 1×10 = 10 marks)

20. Define succession and explain the mechanism of succession. Give an account on hydrosere.
21. Write an essay on the functions and deficiency symptoms of any five nutrients in plant.