1B4A24146 (Pages : 1) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Botany Degree Examination, April 2024

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 biological journals. Give example.
2. Write the principle of colorimetry.
3. What is Molecular sieving? Explain its advantages.
4. How Shodh Ganga is helpful for researchers ?
5. What is the principle of Centrifugation.
6. How a frequency curve is represented ?
7. Write the importance of dehydration in sectioning.
8. What is a Fixative? Give the composition of FAA.
9. Explain Micrometry.
10. What is Null hypothesis?
11. Differentiate between Correlation and Regression.
12. Explain the importance of Buffers in biological solutions.

SECTION B

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

13. Explain the different steps involved in Scientific method.
14. Give an account on staining methods with examples.
15. Describe the various measures of Central tendency.
16. Write a short note on sampling in data collection.
17. Write the principle and applications of Spectrophotometry.
18. Describe the different types of Chromatographic methods.
19. Differentiate between SEM and TEM.

SECTION C

(Answer any one question, each question carries 10 marks. 1x10= 10 Marks)

20. Write an essay on different types of microscopes used in biological studies.
21. Explain the different data representation methods in biostatistics

1B4A24147 (Pages : 1) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Zoology Degree Examination, April 2024

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. What is water potential? Discuss its significance in plant cells.
2. What are the major functions of Zn in plants? Mention the symptoms of its deficiency
3. Transpiration is a necessary evil. Discuss.
4. Explain a) absorption spectra, b) red drop
5. What is passive absorption of water? Explain the mechanisms.
6. What are the major factors affecting photosynthesis?
7. What is photo-periodism? Explain citing examples.
8. Explain senescence. Discuss its significance.
9. Describe four salient features of epiphytes.
10. Write notes on a) biotope, b) biosphere, c) biomagnification, d) food web
11. Describe a) test cross, b) back cross
12. What is epistasis? Describe citing an example.

SECTION B

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

13. What are the major theories to explain the ascent of sap in plants? Discuss their merits and demerits.
14. Explain the K+ ion theory to explain transpiration.
15. Explain C4 cycle. List out its salient features.
16. What is seed dormancy? Explain the methods to break different kinds of dormancy. Cite examples for each. [1+3+1 = 5 marks]
17. What is succession? Describe hydrosere.
18. Write on Mendel Laws. Discuss its significance.
19. Describe the gene interactions in a) *Lathyrus,* b) *Mirabilis.*

SECTION C

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

20. Write a detailed note on the mechanism of photosynthesis.
21. Describe the ecological adaptations in a). *Vallisneria.* b) *Nerium.*