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1B4A23144 (Pages : 1) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Botany Degree Examination, April 2023

BBT4B04 – Methodology and Perspectives in Plant Science

(2019 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? Write any two examples.
2. Expand IFLIBNET.
3. Distinguish between direct and indirect observations.
4. What is random sampling?
5. What is frequency curve?
6. What is molarity?
7. Comment on pH indicators.
8. Explain Beer Lambert's Law.
9. Briefly explain amphoteric substances.
10. Briefly explain the optical components of a compound microscope.
11. Explain killing and fixing.
12. Comment on vital staining.

SECTION B

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

13. Explain major steps involved in scientific method.
14. Explain various methods of data collections.
15. Describe various tools to find measures of dispersion.
16. Explain the different kinds of acids that you have studied. .
17. Explain various components in colorimeter. How it works ?
18. Explain different kinds of electron microscopes.
19. Explain rotary microtome.

SECTION C

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

20. Write an essay on the various methods of data representations.
21. Explain tests of hypothesis (Chi square analysis) with special emphasis on null and alternative hypothesis.

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Degree Examination, April 2023

BBT4C04 – Plant Physiology, Ecology & Genetics

(2019 Admission onwards)

Time: 2 hours Max. Marks: 60

SECTION A

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

1. Write any two functions of endoplasmic reticulum.
2. What do you mean by water potential? Briefly explain its components.
3. Compare the deficiency symptoms of Zn and Mn.
4. What do you mean by photolysis of water?
5. Briefly describe photoperiodism.
6. Add short note on synthetic auxin.
7. Define seed dormancy. Mention any one factor affecting seed dormancy.
8. What is abscission?
9. Define ecosystem. Give example.
10. Discuss any 2 parasitic adaptations of *Cuscuta.*
11. Describe the law of independent assortment. Explain how independent assortment leads to genetic variability.
12. Distinguish between allele and gene.

SECTION B

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

13. What is red drop? Explain Emerson's enhancement effect.
14. Describe C4 cycle. Explain its significance.
15. Briefly explain passive water absorption. What are the different physical forces involved in passive water absorption?
16. Compare the physiological effects of Auxin and Ethylene.
17. Explain xerophytic adaptations of *Opuntia.*
18. What is epistasis? Explain dominant epistasis with example.
19. Explain interaction of gene in flower colour of *Lathyrus odoratus.*

SECTION C

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

20. What do you mean by ecological succession? Explain Hydrosere.
21. Discuss absorption of water by transpiration pull theory.