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2B4A22472 (Pages : 1) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Degree Examination, April 2022

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 is the significance of control in a scientific experiment?
2. What is APA style of citation in journals?
3. Differentiate between mean deviation and standard deviation.
4. Comment on Beer Lambert's law. Name a scientific instrument operating using this law.
5. What is the importance of Google Scholar in research field?
6. Differentiate between frequency polygon and frequency curve.
7. What is coefficient of variation?
8. What is molecular sieving?
9. What is a percentage solution? How can you prepare a 0.5% solution of NaOH?
10. Define clearing in micro preparations. Name a chemical used as a clearing agent.
11. Expand CRAF. Name components of this fluid
12. Give the disadvantages of free hand sectioning.

SECTION B

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

13. What is staining? Explain the process of double staining and its importance.
14. What is INFLIBNET? What is the importance of this service in scientific research?
15. Explain the differences between electron microscopy and light microscopy.
16. Describe the working of pH meter. Why is it important to maintain pH in a biological experiment?
17. Write a short note on regression analysis.
18. Explain the significance of biological journals. Add a note on impact factor.
19. Define central tendency. What are its different types?

SECTION C

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

20. What is chromatography? Explain its principle and the different types of chromatographic techniques, with a mention on its applications.
21. Explain the various steps involved in making a permanent micro preparation.

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester B.Sc Degree Examination, April 2022

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. List out the functions and deficiency symptoms of Mg in plants
2. Explain photolysis of water.
3. Briefly explain ecological succession and its significance.
4. Describe the parasitic adaptations of *Cuscuta*.
5. Explain law of segregation.
6. Differentiate dominance and incomplete dominance.
7. Briefly explain the structure of plant cell wall.
8. Write a note on the importance of osmosis in plants.
9. Which are the different phases of growth?
10. What are the objections against root pressure theory?
11. Write a note on quantasomes.
12. Briefly explain abscission.

SECTION B

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

13. Explain the passive mechanism of water absorption in plants.
14. Explain the structural characteristics of an ecosystem.
15. Explain flower colour in sweet pea and its genetic mechanism.
16. Explain gene interaction with flower colour in *Lathyrus* as an example.
17. Explain red drop and Emerson's enhancement effect.
18. Differentiate C_3 cycle and C_4 cycle.
19. Briefly explain the factors affecting photosynthesis.

SECTION C

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

20. Describe gene interaction. With the help of suitable examples, explain epistasis and dominance.
21. What is seed dormancy? Briefly explain the causes and methods to overcome seed dormancy.