R – 3137

Reg. No. : .....

Name : .....

Second Semester B.Sc. Degree Examination, September 2023

First Degree Programme under CBCSS

Botany

Foundation Course

BO 1221 : METHODOLOGY AND PERSPECTIVES IN PLANT SCIENCE

(2019 – 2021 Admission)

Time : 3 Hours

Max. Marks : 80

(Draw diagrams wherever necessary)

SECTION – A

I. Answer **all** questions in **one** or **two** sentences. Each question carries **1** mark.

Write notes on :

1. SPSS
2. Random sampling
3. Plagiarism
4. Empiricism theory
5. Secondary data
6. Canada balsam
7. Rf value
8. Hypothesis
9. Ogive
10. Calomel electrode

(10 × 1 = 10 Marks)

P.T.O.

SECTION – B

II. Answer any **eight** of the following. Each question carries **2** marks.

11. What is chi-square test? What is its application?

12. Explain double staining with an example.

13. What are the dangers associated with pre conceived ideas?

14. Explain Null hypothesis

15. What are the parts of a rotary microtome?

16. What is phase contrast microscopy?

17. Differentiate between inductive and deductive reasoning

18. What is maceration? Explain its uses in scientific studies.

19. Explain differential centrifugation.

20. What is a frequency polygon? How it differs from a frequency curve?

21. What is DPX? Comment on its use.

22. What are depositories of scientific information.

(8 × 2 = 16 Marks)

SECTION – C

III. Answer any **six** of the following. Each question carries **4** marks.

23. Explain a pH meter and the stages in pH measurement.

24. Explain the principles underlying the functioning of a spectrophotometer.

25. Write briefly about the stains used in micro technique.

26. Write a note on various measures of central tendencies.

27. Write down the chemical composition of any two killing and fixing agents used in micro technique.

28. Explain lyophilisation and comment on its uses.

29. What is Camera lucida? Comment on its functioning.

30. List out the reagents used for dehydration in micro technique.

31. Explain the steps in PAGE electrophoresis.

(6 × 4 = 24 Marks)

SECTION – D

IV. Write essay on any **two** of the following. **Each** question carries **15** marks.

32. What are electron microscopes. Briefly explain the functioning of SEM and TEM?

33. Briefly explain various measures of dispersion. How are they helpful in data management?

34. Explain various chromatographic methods. Comment on the advantages of each one of them.

35. Explain the steps involved in the permanent slide preparation of the anatomy of a stem sample.

(2 × 15 = 30 Marks)
