Reg. No. : ....

Name : ....

Second Semester B.Sc. Degree Examination, September 2022

First Degree Programme Under CBCSS

Botany

Foundation Course

BO 1221 : METHODOLOGY AND PERSPECTIVES IN PLANT SCIENCE

(2019 Admission)

Time : 3 Hours

Max. Marks : 80

Draw diagram wherever necessary

SECTION – A

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

1. Define arithmetic mean.

2. What is Null Hypothesis.

3. Explain coefficient of variation.

4. What is numerical aperture?

5. Name any two mounting media used in microslide preparation.

6. What is TLC?

7. What is empiricism in science?

P.T.O.

8. What is lyophilization?

9. What is the use of a microtone?

10. Name the Source plant of Haematoxylin.

(10 × 1 = 10 Marks)

SECTION – B

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

11. Define pH. How will you differentiate an acid and a base.

12. Differentiate primary and secondary data.

13. List out the steps involved in scientific methods.

14. What is standard deviation?

15. Why dehydration is significant in microslide preparations? Name a dehydrating agent.

16. What is maceration? Give the steps involved in the process.

17. What is Camera Lucida? What is its use?

18. Differentiate smear and squash.

19. What is Beer Lamberts Law? Why it is significant in biological sciences?

20. What is Cryopreservation? How it is useful in biology?

21. What is micrometry? Explain.

22. Comment on transparency and honesty in science. Are they mandatory?

(8 × 2 = 16 Marks)

SECTION – C

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

23. What is double staining? Explain. List different types of stains used in biological preparations.

24. What is Chi Square test? Explain with an example.

25. What is killing and fixing? Give constituents of three different killing and fixing fluids used for botanical specimens.

26. Describe measures of central tendencies used in handling data. How each of them are calculated?

27. What are the different methods of sampling used in science? Add a brief note on each.

28. Add a note on different digital resources for scientific information.

29. Differentiate inductive and deductive reasoning.

30. What is centrifugation? Give a short note on different types of rotors and centrifugation methods.

31. Differentiate AGE and PAGE. What are their advantages and disadvantages?

(6 × 4 = 24 Marks)

SECTION – D

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

32. Give an account of different types of microscopes used in observing biological objects giving emphasis on advantages and disadvantages of each of them.

33. Give a detailed account of different types of separation methods used in biomolecules.

34. Enumerate different types of data presentation methods used in science.

35. Elaborate on how the knowledge base of human can be classified. Add a note on major revolutions in science and technology.

(2 × 15 = 30 Marks)

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