C 81766

Name..

Reg. No...................................

SECOND SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, APRIL 2020

Botany

BOT 2B 02—RESEARCH METHODOLOGY AND MICRO TECHNIQUE

Time : Three Hours

Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Define arithmetic mean.

2. What is null hypothesis ?

3. Give the significance of analysis of variance.

4. Define molarity.

5. What is numerical aperture ?

6. Name a natural dye.

7. What is maceration ?

8. Expand CRAF.

9. What is TEM ?

10. Give the names of two journals in plant sciences.

$(10 \times 1 = 10 \text{ marks})$

Section B

Answer **all** *questions.*
Each question carries 2 *marks.*

11. What is the importance of questionnaire in data collection ?

12. Define coefficient of variation.

13. Differentiate between Type I and Type II errors.

14. Explain the addition theorem of probability.

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

Turn over

16. What are the different types of microtomes used for sectioning ?

17. What is the use of a camera lucida ?

18. How are smears prepared ?

19. What is the principle of molecular sieving ?

20. Explain the significance of dehydration. Name a dehydrating agent.

(10 × 2 = 20 marks)

Section C

Answer any **six** *questions.*
Each question carries 5 marks.

21. Write notes on Latin square design.

22. Explain the different types of probability distributions.

23. Write a brief note on interpretation of data and its significance.

24. Discuss the latest methods of presentation of a report.

25. What is micrometry ? Explain the steps involved in recording the dimensions of a pollen grain using micrometer.

26. Write a brief account on electron microscopy.

27. Explain the principle and application of centrifugation.

28. Give an account on the different types of sectioning methods and its significance.

(6 × 5 = 30 marks)

Section D

Answer any **two** *questions.*
Each question carries 10 marks.

29. Describe in detail, the steps involved in scientific research.

30. What is the principle of spectrophotometry ? Explain the working and its applications.

31. Explain the classification of stains and various types of staining procedures with examples.

(2 × 10 = 20 marks)