

D 43197

(Pages : 2)

Name.....

Reg. No.....

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2018

(CUCBCSS-UG)

Botany

BOT 2B 02 – RESEARCH METHODOLOGY AND MICROTÉCHNIQUE

Time : Three Hours

Maximum : 80 Marks

I. Answer *all* questions (1 mark each) :

1. Define pH.
2. Name a mounting agent.
3. What is a smear?
4. Give the name of a biological journal.
5. Expand ppm.
6. What is CRAF?
7. An example for a vital stain.
8. What is the unit of sedimentation coefficient?
9. Define standard deviation.
10. What is the stationary phase in adsorption chromatography?

(10 × 1 = 10 marks)

II. Answer *all* questions. Short Answer (2 marks each) :

11. Distinguish between molarity and normality.
12. What is a histogram?
13. What is a buffer? What is its significance?
14. What is TBA? What is its use?
15. Define null hypothesis.
16. Distinguish between random and non-random sampling.
17. What is Chi-square test? What is its significance?
18. Define resolving power of a microscope.
19. Mention the two types of electron microscopes that you have studied.
20. Name a natural dye and its source.

(10 × 2 = 20 marks)

Turn over

III. Answer any *six* questions. Short Essays (5 marks each) :

21. Explain the methods of central tendency.
22. Explain dehydration in microtechnique. Give examples of dehydrating agents.
23. What are the methods by which data can be presented?
24. What are the aids used to make illustrations using a microscope?
25. What is the principle of spectrophotometry? Explain its uses.
26. Explain the principle of chromatography. Give an account on ion exchange chromatography.
27. What are the methods employed for data collection?
28. Explain the various steps involved in scientific methodology.

(6 × 5 = 30 marks)

IV. Answer any *two* questions. Essay. (10 marks each) :

29. Explain the principle of centrifugation. Give an account on the types of centrifuges and their applications.
30. Give a general account on killing and fixing. Explain the composition of common killing and fixing agents.
31. What is the principle of microscopy? Explain the different parts of a microscope and their role in microscopy.

(2 × 10 = 20 marks)