

Reg. No

Name

M. Sc DEGREE END SEMESTER EXAMINATION - MARCH 2020**SEMESTER 4 : BOTANY****COURSE : 16P4BOTT16 : BIostatistics, Microtechniques and Biophysics***(For Regular - 2018 Admission & Supplementary 2017/2016 Admissions)*

Time : Three Hours

Max. Marks: 75

Section A**Answer any 8 (2 marks each)**

1. What is Zirkle- Erliki fluid?
2. What is free hand sectioning? Mention its merits and demerits.
3. What are mordants? Give examples.
4. What is shadow casting?
5. Distinguish between a smear and squash preparation.
6. What is the principle of phase contrast microscopy?
7. Write a note on how to prepare a TLC plate.
8. Differentiate between the properties of gel used in PAGE and AGE.
9. What is a frequency distribution? Explain when you use frequency data in research.
10. What is simple linear regression?
11. Describe experimental design.
12. When do you use a *t* test?

(2 x 8 = 16)**Section B****Answer any 7 (5 marks each)**

13. Write the composition and uses of FAA, FPA, and Carnoy's Fluid.
14. Explain the different dehydration methods used in micro technique.
15. Explain the classification of stains.
16. What is maceration? Explain different methods of maceration.
17. Describe the principles and application of TEM.
18. Give an account of ELISA. Explain its application.
19. Discuss about the measures of dispersion in statistical analysis.
20. What are the significances and limitations of simple linear regression?
21. What is Normal distribution? What are its significances?
22. Explain the principles of experimental design and add a note on the uses of experimental design in biological research.

(5 x 7 = 35)

Section C
Answer any 2 (12 marks each)

23. Write an essay on the specimen preparation for transmission electron microscope?

OR

24. Describe the features, principle and working of various optical microscopes.

25. What is spectrophotometry. Explain the working of MS and how it is used in combination with GC.

OR

26. Write an essay on ANOVA. What are the significances of ANOVA in testing hypothesis?

(12 x 2 = 24)