

Reg. No.....

Name.....

M.SC DEGREE END SEMESTER EXAMINATION OCTOBER 2016
SEMESTER - 3: BOTANY

**COURSE: P3BOTT09 - RESEARCH METHODOLOGY, BIOPHYSICAL
INSTRUMENTATION, BIOSTATISTICS AND MICROTECHNIQUE**

Common for Regular (2015 Admission) & Supplementary / Improvement (2014
Admission)

Time: Three Hours

Max. Marks: 75

I. Answer *any eight* questions briefly; each question carries 2 marks

1. Differentiate primary and secondary data.
2. Define numerical aperture? What is its significance?
3. Write notes on null hypothesis and alternate hypothesis.
4. Mention the common buffers used in biochemical experiments.
5. How a phase contrast microscope differs from stereomicroscope?
6. What are Microtomes? Mention the types of microtome used in sectioning.
7. Differentiate between squash and smear techniques
8. Explain the theorems of probability.
9. How will you prepare a 1 N NaOH solution?
10. Bring out the preparation of Index cards.
11. What are secondary storage devices? Give examples.
12. Write notes on micrometry.

(2 x 8 = 16)

II. Answer *any seven* questions; each question carries 5 marks

13. List out the different components of a scientific paper
14. What are centrifuges? Explain its principle. Also add notes on the different types of centrifuges used in labs.
15. Write an account of phase contrast microscope and electron microscope.
16. Describe the various methods of graphical representation of data? Bring out the advantages and disadvantages.
17. Explain the techniques of preparation of sections by paraffin impregnation method.
18. What are coal tar dyes? Explain the preparation of any three coal tar dyes employed in microtechnique.
19. Bring out the principles and applications of ELISA.
20. What is INFLIBNET? What are its objectives?
21. Describe the various tests of significance in biostatistics.
22. Differentiate between random sampling and stratified sampling.

(5 x 7 = 35)

III. Answer *any two* questions; each question carries 12 marks

23. What is chromatography? Briefly explain the working of TLC, column and paper chromatography.

OR

24. Write notes on measures of dispersion

25. Briefly explain the procedures of whole mount preparations.

OR

26. Describe the various aspects of preparation of a project proposal. (12 x 2 = 24)
