TM143030A **Reg. No. .....**
Name .....

M. Sc. DEGREE (CSS) EXAMINATION, FEBRUARY 2016
SUPPLEMENTARY
THIRD SEMESTER - BOTANY
BOT3RBBM – RESEARCH METHODOLOGY, BIOPHYSICAL INSTRUMENTATION, BIOSTATISTICS AND MICROTECHNIQUE

Time: Three hours **Maximum Weight: 30**

PART A

I. Answer any six questions. Each question carries 1 weight

1. What are the major objectives of Information and Library Network Centre?
2. Differentiate between resolution and resolving power of the microscope
3. What are the factors that determine the electrophoretic mobility of a particle?
4. Describe the following
   (a) Normal distribution (b) Histogram
5. What are statistical significance tests?
6. What is the composition of Zirkle-Erliki fluid?
7. What are the advantages of double staining?
8. Write a brief description on Pubmed **(6x1=6)**

PART B

II. Answer any seven questions. Each question carries 2 weight

9. Differentiate between short communications and regular papers
10. Give an outline of the contents expected in a dissertation
11. Describe the working of electron microscopes. Add a note on different types of electron microscopes
12. Describe the basic principle and applications of X-ray cryatallography
13. Explain the principle and working of HPLC
14. Write a brief account on the working, types and uses of ultracentrifuge
15. Comment on the need of randomization in conducting experiments
16. How do we interpret the calculated value of Chi-square?
17. Describe a method used for the histochemical localization of total proteins in plant materials
18. What are the qualities of a good mounting media? Give examples for commonly used mounting media **(7x2=14)**

PART C

III. Answer any two questions. Each question carries 5 weight

19. Write an essay justifying the following statement

"An appropriate design is required for the success of an experiment, and different designs are devised depending on the nature of study, number of variables, and the type of data to be collected."

20. Write a sample outline for a research project proposal
21. Describe the common methods of sectioning used to study the anatomical structure of plant materials? Add notes on the prospects and problems of each

(2x5=10)