

TMP161040A

Reg. No:

Name:

**M. Phil. DEGREE EXMINATION, MARCH, 2017
SEMESTER I - BOTANY
BO1C2MP – BIOLOGICAL TECHNIQUES**

Time: Three Hours

Maximum Marks: 75

PART A

I. Answer any nine questions. Each question carries 5 marks.

1. Write an account on the general methods for the isolation and purification of proteins.
2. The medicinal properties of plants reflect their secondary metabolite composition. Justify.
3. What do barcodes represent? What are the markers used in the barcoding of plants?
4. Describe the principle and working of the density gradient centrifugation.
5. Highlight the difference between 1-D and 2-D gel electrophoretic systems.
6. Explain LC-TOF-MS and it's various applications.
7. What is restriction-modification? Add notes on the nomenclature of restriction enzymes.
8. Write short notes on any two PCR based molecular marker techniques.
9. Explain the principle and working of FTIR.
10. Describe the use of microtomes in plant anatomy. What are the modifications in a cryotome?
11. Emphasize the applications of phytotechnologies.
12. Describe how green auditing contributes to pollution reduction.

(9x5 = 45)

PART B

II. Answer any two questions. Each question carries 15 marks.

13. Elaborate on photobioreactors and it's designing. Discuss the utility of photobioreactors to society and ways and means to enhance the efficiency of it.

OR

14. What is spectroscopy? Explain how the different spectroscopic techniques help in chemical structure elucidation of compounds.

15. Describe the process of genomic DNA isolation in plants including remarks on the utility of the reagents added at each step of the process.

OR

16. Describe the beneficial and harmful association between plants and fungi in nature. Include a description about AM fungi types and it's role in stress alleviation of plants.

(2x15 = 30)