TM153065C **Reg. No……...…**

Name.…….....……

M. Sc. DEGREE (C.S.S.) EXAMINATION, OCTOBER 2016
SEMESTER III - BOTANY
BO3C12TM - BIOTECHNOLOGY AND BIOINFORMATICS

Time: Three Hours **Maximum Marks: 75**

PART A

I. Answer any five questions. Each question carries 3 marks

1. Write a note on medical biotechnology.
2. Explain protoplast cultures.
3. Write briefly on the preparation of explants for tissue culture.
4. Describe the role of ligases in genetic engineering.
5. What is a genomic library? What are its applications?
6. Explain GMO food with examples.
7. Write a note on protein databases.

(5x3=15)

PART B

II. Answer any six questions. Each question carries 5 marks

8. Describe the steps involved in subculturing and hardening of tissue culture plants
9. What are artificial chromosomes? What are its applications?
10. Differentiate between linkers and adapters
11. Describe real time PCR and its applications
12. Distinguish between FISH and GISH
13. Discuss the ethical issues in rDNA technology
14. Briefly describe genome sequencing projects
15. Explain the technique involved in RIA and its applications
16. Give an account on the methods and applications of *invitro* mutagenesis

(6x5=30)

PART C

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

17. Describe in detail the general composition of medium for plant tissue culture. Cite examples
18. Write the steps involved in gene cloning in bacteria
19. Explain the various types of blotting techniques with its applications
20. Elaborate on the scope and applications of databases citing suitable examples

(2x15=30)