



K16P 1002

Reg. No. : .....

Name : .....

Third Semester M.A./M.Sc./M.Com. Degree (Reg./Supple./Imp.)  
Examination, November 2016

**BOTANY**

(2014 Admission Onwards)

**BOT 3E01 : BIOTECHNOLOGY AND BIOINFORMATICS**

Time : 3 Hours

Max. Marks : 60

**Instruction :** Draw diagrams wherever necessary.

**SECTION – A**

1. a) Write an account on somatic embryogenesis, types of somatic embryogenesis and its problems/ advantages.

OR

b) What are haploid cultures ? Give an account on types of haploid cultures with their significances.

2. a) Give an account on antisense RNA technology and its applications.

OR

b) Describe different techniques employed in the identification and analysis of cloned genes. (2×8=16)

**SECTION – B**  
(Answer any two)

3. a) Define multiple sequence alignment.

b) What is PDB ?

c) How to predict a gene using bioinformatics ? (1+2+3)

4. a) What is micropropagation ?

b) What are the different stages of micropropagation ?

c) Give an account on significances of micropropagation. (1+2+3)

P.T.O.



- 5. a) What are somaclones ?
  - b) What are the causes for somaclone formation ?
  - c) Give an account on applications of somaclones. (1+2+3)
- (2×6=12)**

**SECTION – C**  
**(Answer any six)**

- 6. What are cybrids ?
- 7. Describe redifferentiation.
- 8. Explain SNP databases.
- 9. Describe restriction enzymes.
- 10. Explain herbicide resistant plants.
- 11. What are database concepts ?
- 12. Write a note on elicitors.
- 13. Describe synthetic auxins. (6×3=18)

**SECTION – D**  
**(Answer any seven)**

- 14. Batch culture.
- 15. Clustal W.
- 16. Crygene.
- 17. Data structures.
- 18. Meristemoids.
- 19. Totipotency.
- 20. Microelements.
- 21. PUC 18.
- 22. Gelrite.
- 23. Liposomes. (7×2=14)