K15P 0031

Reg. No. : .....

Name : .....

Third Semester M.A./M.Sc./M.Com. Degree (Reg./Sup./Imp.) Examination, November 2015
BOTANY (2014 Admn.)
BOT 3 E01 – Biotechnology and Bioinformatics

Time : 3 Hours Max. Marks : 60

***Instruction**: Draw diagrams **wherever** necessary.*

SECTION – A

1. a) Describe different steps involved in cryopreservation and add a note on its applications and shortcomings.

   OR

   b) Explain different types of suspension cultures used in the production of plant secondary metabolites and add a note on its advantages/disadvantages.

2. a) Write an account on construction of cDNA libraries.

   OR

   b) Write an account on the production of insect resistant transgenic plants. **(2×8=16)**

SECTION – B

(Answer **any two**)

3. a) What is gene prediction ? **(2×6=12)**
   b) Describe vector NTI.
   c) Give an account on molecular visualisation tools. **(1+2+3)**

4. a) What are somatic hybrids ?
   b) How to obtain somatic hybrids ?
   c) Write on applications of somatic hybrids ? **(1+2+3)**

5. a) What are marker genes ?
   b) Write on different categories of marker genes.
   c) Give an account on applications of marker genes. **(1+2+3)**

P.T.O.

SECTION – C

(Answer **any six**) **(6×3=18)**

6. What are vir genes ?
7. Which are the major bioinformatic resources available on protein databases ?
8. What are friable callus ?
9. How liposomes are used in gene transfer technique ?
10. Describe endosperm culture.
11. Write a note on zeatin.
12. What is nurse culture ?
13. What is auxotroph complementation ?

SECTION – D

(Answer **any seven**) **(7×2=14)**

14. Somaclones.
15. Restriction map.
16. Xylogenesis.
17. TATA box.
18. Gene bank.
19. Canalisation.
20. Isoelectric focusing.
21. Co-culturing.
22. Shuttle vector.
23. PEG.
