LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **PLANT BIOLOGY & PLANT BIO-TECH.**

FIFTH SEMESTER – **APRIL 2013**

PB 5518/PB 5512/PB 5504 - PLANT BIOTECHNOLOGY

Date: 13/05/2013 Dept. No. Max. : 100 Marks
Time: 9:00 - 12:00

PART-A

Answer the following, each within 50 words only: (10X2=20marks)

1. Define callus.
2. Name any two culture media used in Tissue culture.
3. What are the enzymes used in gene cloning?
4. What is an explant?
5. What are *nif* genes?
6. What are Introns?
7. What is electrophoresis?
8. Define cosmids.
9. What is Western blotting
10. What is Bt cotton?

PART-B

Answer the following, each within 500 words only: (5X7=35marks)
Draw diagrams/flowcharts wherever necessary:

11. a. Give an account on phytohormones used in tissue culture.
    Or
    b. Describe the methods of sterilization.

12. a. Describe the procedure for anther culture.
    Or
    b. Write short notes on the methods of cryopreservation.

13. a. Give an account on chloroplast genome.
    Or
    b. Write short notes on cytoplasmic male sterility.

14. a. Enumerate the properties of an ideal cloning vector.
    Or
    b. Write short notes on southern blotting.

15. a. Write the methodology to develop transgenic plant against herbicides.
    Or
    b. Describe the procedure to develop cDNA library.

PART-C

Answer any THREE of the following, each within 1200 words only: (3X15=45marks)
Draw diagrams/flowcharts wherever necessary:

16. Give a detailed account on suspension culture and its significance.
17. How will you isolate protoplast from the plant cell? Give the applications of the protoplast culture.
18. Describe the structure of *Ti* plasmid and the mechanism of *T –DNA* transfer.
19. Write an essay on polymerase chain reaction.
20. Give a detailed account on molecular markers.

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