



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & BIOTECHNOLOGY**

**FIFTH SEMESTER – NOVEMBER 2013**

**PB 5516/PB 5510/PB 5506 – GENETICS, PLANT BREEDING AND EVOLUTION**

Date : 07/11/2013  
Time : 9:00 - 12:00

Dept. No.

Max. : 100 Marks

**PART – A**

**[10 X 2 = 20]**

**ANSWER THE FOLLOWING, EACH WITHIN 50 WORDS ONLY**

1. What are alleles?
2. What are lethal genes?
3. What are transposons?
4. What is tetrad analysis?
5. What is Klinefelter's syndrome?
6. Write about mutagens?
7. What is clonal selection?
8. What is meant by Homozygous parent?
9. Write about neo-lamarckism.
10. Write any two centres of biodiversity?

**PART – B**

**[5 X 7 = 35]**

**ANSWER THE FOLLOWING, EACH ANSWER WITHIN 500 WORDS,  
DRAW DIAGRAMS WHEREVER NECESSARY**

11. a) Summarise the laws put forth by Mendel based on dihybrid cross  
(OR)  
b) Explain sex determination in plants.
12. a) Describe the post transcriptional modifications.  
(OR)  
b) Why Neurospora is considered as the best material to study genetic recombination?
13. a) Describe the types of mutations.  
(OR)  
b) Briefly summarise the methods of DNA repair.
14. a) Write an account on origin of cultivated plants.  
(OR)  
b) Compare mass selection and pureline selection.
15. a) Write briefly about Lamarckism.  
(OR)  
b. Write an account on speciation.

**PART – C**

**(3 X 15 = 45)**

**ANSWER ANY THREE OF THE FOLLOWING, EACH WITHIN 1200 WORDS,  
DRAW DIAGRAMS WHEREVER NECESSARY:**

16. Write an essay on cytoplasmic inheritance.
17. Describe the structure and organization of DNA.
18. Explain the different types of chromosomal aberration.
19. Write an essay on the steps involved in hybridization.
20. Explain the principles of Darwinism.

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