



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

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

**FIFTH SEMESTER – NOVEMBER 2016**

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

Date: 03-11-2016

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

**PART – A**

Answer the following, each within 50 words only.

(10 x 2 = 20 marks)

1. What is test cross?
2. Give a brief account on multiple alleles.
3. What is a plasmid?
4. What is transposon?
5. What is a syndrome?
6. What is photoreactivation?
7. What is hybrid vigour?
8. What is domestication?
9. What is isolation?
10. What is mutation theory?

**PART – B**

Answer the following, each answer within 500 words, Draw diagrams wherever necessary.

(5 x 7 = 35 marks)

11. a) Briefly explain the laws of Mendel.  
(OR)  
b) Differentiate incomplete dominance from codominance.
12. a) Describe the structure of DNA.  
(OR)  
b) Discuss transcription and post transcriptional modifications.
13. a) Explain down syndrome and klinefelters syndrome.  
(OR)  
b) Give an account on mutation, types and their significance.
14. a) Differentiate pureline selection and clonal selection.  
(OR)  
b) Write about the centres of diversity and the origin of cultivated plants.
15. a) Write an account on speciation.  
b) Briefly describe organic evolution.

PART – C

Answer any **THREE** of the following, each within 1200 words, Draw diagrams wherever necessary  
(3 x 15 = 45 marks)

16. Describe sex determination in plants.
17. Describe the events in the replication of DNA.
18. Write an essay on chromosomal aberrations.
19. Describe the various steps in the hybridization procedure.
20. Write an essay on the theory of natural selection.

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