



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTH SEMESTER – APRIL 2013

PB 5516/PB 5510/PB 5506 - GENETICS, PLANT BREEDING AND EVOLUTION

Date: 10/05/2013
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. Define codominance?
2. What are lethal genes?
3. What are transposons?
4. Write about triplet codon.
5. What is Down's syndrome?
6. Write about mutagens?
7. Define Heterosis?
8. What is emasculation?
9. Give any two examples for use and disuse theory.
10. What is Polyploidy?

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 cytoplasmic inheritance with an example.
12. a. Describe the structure and functions of DNA.
(OR)
b. Give an account on post transcriptional changes.
13. a. Describe chromosomal aberrations and their types.
(OR)
b. Briefly summarise the types and advantages of polyploidy.
14. a. Write an account on origin of cultivated plants.
(OR)
b. Write the procedure and advantages of pureline selection and clonal selection.
15. a. Discuss 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 sex determination in plants.
17. Describe the process of replication of DNA.
18. Explain the different types of mutation and DNA repair mechanism.
19. Write an essay on the steps involved in hybridization.
20. Describe the theory of natural selection.

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