



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTH SEMESTER – NOVEMBER 2014

PB 5522 - GENETICS & PLANT BREEDING

Date : 01/11/2014

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)

01. What is pleiotropism?
02. What is codominance? Give example.
03. Define dominant epistasis.
04. What is cytoplasmic inheritance?
05. Define Cistron.
06. Write notes on translation.
07. What is translocation?
08. Name any two physical mutagens
09. What is heterosis?
10. What is meant by Genetic erosion?

PART – B

ANSWER THE FOLLOWING, EACH WITHIN 500 WORDS.

DRAW DIAGRAMS WHEREVER NECESSARY:

(5 x 7 = 35 marks)

11. a. Give an account of incomplete dominance and lethal factor.
(OR)
b. Write an account on the history and application of Genetics.
12. a. Write briefly about the sex determination in plants.
(OR)
b. Explain complementary genes with suitable example.
13. a. Give an account of Genetic code.
(OR)
b. Explain *lac* operon model of gene expression.
14. a. Explain excision repair and SOS repair mechanism of DNA.
(OR)
b. Write notes on Klinefelter's syndrome.
15. a. Explain the various steps involved in Hybridization.
(OR)
b. Enumerate the importance of Plant breeding in India.

PART – C

ANSWER ANY THREE OF THE FOLLOWING, EACH WITHIN 1200 WORDS.

DRAW DIAGRAMS WHEREVER NECESSARY:

(3x15=45marks)

16. Explain laws of Mendel with example.
17. What is sex linked inheritance? Explain with reference to haemophilia and colour blindness in man.
18. Describe the structure and replication (semi conservative model) of DNA.
19. Give an account of the types and significance of Mutation.
20. Discuss the various methods of selection in Plant breeding.

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