



LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION
PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FIFTH SEMESTER – APRIL 2025



16/17/18UPB5MC02 – GENETICS AND PLANT BREEDING

Date: 28-04-2025

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

SECTION A

Answer ANY FOUR of the following, each within 500 words.

Draw diagrams / flowcharts wherever necessary.

4 x 10 = 40 Marks

1. Write an account on incomplete dominance.
2. Write a short account on polygenic inheritance.
3. Outline the process of replication of DNA in prokaryotes.
4. Discuss about complementary gene interaction.
5. Write a short account on point mutations.
6. Outline the importance of polyploidy in plant breeding.
7. Give an account on hybrid vigour and its importance.
8. Explain mass selection in plant breeding. Add a note on its advantages and disadvantages.

SECTION B

Answer ANY THREE of the following, each within 1000 words.

Draw diagrams / flowcharts wherever necessary.

3 x 20 = 60 Marks

9. Explain the Law of independent assortment with an example.
10. Explain sex linked inheritance with Colour blindness and Haemophilia as an examples.
11. Describe the structure and organisation of DNA.
12. Write a detailed account on the various types of chromosomal aberrations.
13. Explain about light dependent and light independent DNA repair mechanisms.
14. Describe about the various techniques used in the hybridization of plants.

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