

A (Printed Pages 4)
(20222) Roll No.
M.Sc. (Bio-Tech.) -I Sem.

NP-3330(CV-III)

M.Sc. (Bio-tech.) Examination, Dec.-2021

Fundamental Of Genetics

(H-101)

M.Sc. (Bio-tech.)

Time : 1½ Hours / [Maximum Marks : 50

Note : Attempt questions from **all** sections as per instructions.

Section - A

(Very Short Answer Questions)

Note : Attempt any **two** questions. Each question carries **05** marks. Answer should not exceed 100 words.

5×2=10

1. Dosage compensation

P.T.O.

5. Chemical mutagen

Section - B

Short Answer Questions

Note : Attempt any **one** question. Each question carries **10** marks. Answer should not exceed 250 words.

1×10 = 10

6. Differentiate between sex linked and sex limited traits. Provide suitable examples for each trait.
7. Describe CLB method for detecting mutations in Drosophila
8. Discuss with the help of a suitable diagram parallelism between Mendel's hypothetical particles (factors) and chromosome during meiosis

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9. Explain male sterility in plants? Discuss its importance in plant breeding.

Section - C

(Detailed Answer Questions)

Note : Attempt any **two** questions. Each question carries **15** marks. Answer is required in detail. $2 \times 15 = 30$

10. Describe extra-chromosomal inheritance. Discuss Kappa particles in paramecium and coiling in snails.
11. What are multiple alleles? Discuss the example of ABO blood group system in humans.
12. What is Position effect variegation (PEV)? Discuss it providing suitable example.
13. Discuss different type of gene interactions which led to the modification of 9:3:3:1 dihybrid ratio

14. What is heterosis? Discuss its importance in plant breeding.