21BSC5C6BOL

B.Sc. V Semester Degree Examination, Sept./Oct. - 2024

BOTANY

DSC 6 : Genetics and Plant Breeding

(NEP)

Time : 2 Hours   Maximum Marks : 60

Note :   (i)   *Answer **all** the Sections.*

(ii) *Draw neat labelled diagrams whenever necessary.*

SECTION - A

Answer **all** the questions.   **10x1=10**

1. (a) What is Pedigree Analysis ?
    (b) Who is Father of Genetics ?
    (c) What are Autosomes ?
    (d) What is Polygenic Inheritance ?
    (e) What is Crossing Over ?
    (f) What is Gene Mapping ?
    (g) Define Mutation.
    (h) Define Speciation.
    (i) Define Self Pollination.
    (j) What is Hybridization ?

SECTION - B

Answer **any four** of the following questions.   **4x5=20**

2. What is Incomplete Dominance ? Describe with suitable example.

3. Write a note on Chromosomal Theory of Inheritance.

4. Write a note on Cytological basis of Crossing Over.

5. Write a note on DNA Repair Mechanism.

6. Describe the objectives of Plant Breeding in detail.

7. Write a note on Vegetative Propagation in Plants.

SECTION - C

Answer **any three** of the following questions. **3x10=30**

8. What is Dihybrid Cross ? Describe Dihybrid Cross with suitable example.

9. Write a note on Quantitative Inheritance with special reference to Kernel Colour in Wheat.

10. Write a short note on :
    (a) Recombination frequency
    (b) Interference and Coincidence

11. (a) State Hardy - Weinberg Law

    (b) Types of Mutation

12. Write a short note on :
    (a) Plant Genetic Resources

    (b) Genetic basis of Inbreeding Depression

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