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21BSC5C6BOL

B.Sc. V Semester Degree Examination, April/May - 2024

BOTANY

DSC - 6 : Genetics and Plant Breeding

(NEP)

Time : 2 Hours Maximum Marks : 60

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

(ii) Draw diagram wherever necessary.

SECTION - A

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

1. (a) Define gene frequency.

(b) What are lethal alleles ?

(c) What are autosomes ?

(d) Who proposed the Chromosome theory of inheritance ?

(e) Define Acclimatization.

(f) Define Pleotropy.

(g) What are transposons ?

(h) What method is employed to emasculation in minute flowers ?

(i) Differentiate between genotype and phenotype.

(j) Define Recombination frequency.

SECTION - B

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

2. What are Mutagens ? Explain its types.

3. Write the difference between monogenic and polygenic inheritance.

P.T.O.

4. Write a note on Cytological basis of crossingover.

5. Explain the importance of Plant breeding in Crop improvement.

6. Write a note on DNA repair mechanism.

7. What is incomplete dominance ? Explain with suitable example.

SECTION - C

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

8. What is linkage ? Explain the types of linkage with suitable examples.

9. Describe the quantative inheritance with reference to Kernel colour in wheat.

10. Explain CIB method of mutation detection.

11. Write a short note on :
(a) Centres of origin of Crop Plants
(b) Advantages and limitation of hybridization

12. Describe the numerical based gene mapping.

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