

Total Pages-02

RNLKWC/B.Sc.-CBCS/IIIS/BOT/H/C7T/21

**2021**

**BOTANY**

**[HONOURS]**

**(CBCS)**

**(B.Sc. Third End Semester Examination-2021)**

**PAPER-C7T**

***Full Marks: 40***

***Time: 02 Hrs***

*The figures in the right hand margin indicate marks  
Candidates are required to give their answers in their own words as  
far as practicable*

*Illustrate the answers wherever necessary*

**Group – A**

**1. Answer any five of the following:**

**5x2=10**

- a) Define coefficient of coincidence. What is its relation with interference?
- b) Differentiate between euploids and aneuploids.
- c) Give example of one base analogue and one alkylating compound acting as mutagens.
- d) State briefly the chromosome theory of inheritance.
- e) Why the four o'clock plant shows variegated leaves?
- f) What is incomplete linkage ?
- g) What is meant by gene pool ?
- h) Name one physical and one chemical mutagen and the type of mutation that they cause.

(2)

**Group – B**

- 2. Answer any four of the following: 4x5=20**
- a) Compare between crossing over and recombination? What is coupling and repulsion phase?
  - b) Consider a system with two alleles B and b. The no of BB, Bb and bb individuals are 1600,370,30 respectively. Calculate the allelic frequencies p and q, where p is frequency of B and q is the frequency of b.
  - c) Determine the inheritance pattern of segregational petite, neutral petite, and suppressive petite.
  - d) Explain the phenomenon incomplete dominance and co dominance with examples.
  - e) Explain how an intercalating agent causes mutation with diagram.
  - f) Explain allopolyploid with example.

**Group – C**

- 3. Answer any one of the followings: 1x10=10**
- a) Discuss briefly the cis-trans complementation test in association with gene mutation.
  - b) Discuss any four types of chromosomal alterations with diagrams. Give example of one sex linked character.

(8+2)

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