B.Sc. Semester-III Examination, 2022-23

BOTANY[Honours]

Course ID : 31314 Course Code : SH/BOT/304/GE-3

Course Title : Genetics and Plant Breeding

Time : 1 Hour 15 Minutes Full Marks : 25

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

UNIT-I

1. Answer any **five** from the following questions: 1×5=5

a) What do you mean by Bagging?

b) Define crossing over.

c) What are chromosomal aberrations?

d) State the significance of interspecies hybridization.

e) What is inbreeding depression?

f) Differentiate between polyploidy and aneuploidy.

g) What do you understand by inversion type of mutation?

h) What is meant by domestication of plants?

UNIT-II

2. Answer any **two** from the following questions: 5×2=10

a) Write a short note on incomplete dominance. What is co-dominance? 4+1=5

b) Discuss the important achievements of plant breeding.

c) Differentiate between complete and incomplete linkage. Add a note on significance of crossing over. 3+2=5

d) What is crossing over? Write the significance of crossing over. What does 'recombination frequency' means?

UNIT-III

3. Answer any **one** from the following questions: 10×1=10

a) Discuss briefly on Distant hybridization and role of biotechnology in crop improvement. Add a short note on Turner's syndrome. 3+4+3=10

b) What is mass selection? In which types of crops this method is applicable? Write the applications of mass selection? Describe its merits and demerits. $2+1+2+2\frac{1}{2}+2\frac{1}{2}=10$

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