

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2018
(Fourth Semester)
Branch - BOTANY

GENETICS & GENETIC IMPROVEMENT OF CROPS

Time : Three Hours

Maximum : 75 Marks

SECTION-A 120 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 Define Monohybrid cross.
- 2 Write notes on Hypostatic gene.
- 3 What is meant by Polyploidy?
- 4 Define Chiasma.
- 5 Write notes on Mutagens.
- 6 Give a note on Male sterility.
- 7 Define Hybridization.
- 8 Explain the term Heterosis.
- 9 Write the binomial name of commonly cultivated Wheat plants.
- 10 Write the binomial name of wild species of Sugarcane.

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Give an account of Mendel's Dihybrid cross.
OR
b Briefly explain the Supplementary gene.
- 12 a With suitable example describe 'Autopolyploidy'.
OR
b List out the types and significance of Crossing-over.
- 13 a Write an account on Chromosomal mutations.
OR
b Write the difference between Chromosomal and Cytoplasmic inheritance.
- 14 a What are main objectives of plant breeding?
OR
b Write notes on Clonal selection.
- 15 a What are the objectives of Cotton breeding?
OR
b Explain the methods of Sugarcane breeding.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Give a detailed account on Epistatic gene interaction.
- 17 Write an essay on multiple alleles with suitable examples.
- 18 Give an account on gene mutation.
- 19 What are the steps involved in hybridization programmes?
- 20 Describe the techniques involved in Paddy breeding.