

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2018  
(Second Semester)

Branch-BOTANY

GENETICS AND PLANT BREEDING

Time: Three Hours

Maximum: 75 Marks

SECTION -A (30 Marks!)

Answer ALL questions  
ALL questions carry EQUAL Marks (5 x 6 = 30)

- 1 a Define incomplete dominance. Explain with an illustration.  
**OR**  
b Write a short account on interaction of genes.
- 2 a Explain the concept of linkage.  
**OR**  
b Explain sex linkage with reference to eye color in *Drosophila*.
- 3 a Define mutation. Describe any one method of detecting mutation.  
**OR**  
b List down the types of mutagens with examples.
- 4 a Enumerate the objectives of plant breeding.  
**OR**  
b Write notes on hybrid vigour and its importance.
- 5 a Discuss the technique involved in cotton breeding,  
**OR**  
b Write a short note on the genetical improvement of red gram.

SECTION -B (45 Marks)

Answer any THREE questions  
ALL questions carry EQUAL Marks (3 x 15 = 45)

- 6 Write an essay on multiple alleles with special reference to blood groups in man.
- 7 Write short notes on : (i) Multiple factor hypothesis (ii) Gene mapping on chromosomes.
- 8 Explain the concepts of extrachromosomal inheritance with examples.
- 9 Discuss the methods of selection followed in plant breeding.
- 10 Write notes on the breeding of paddy and sugarcane.

**Z-Z-Z**

**END**