

**PG AGRICULTURE**  
**M.Sc. in Genetics and Plant Breeding**  
**Semester-II Examination, 2023**  
**PAPER: GPB 511 (THEORY)**  
**CROP BREEDING-I (KHARIF CROPS)**

**Full Marks: 50**

**Time: 3 Hours**

**GROUP-A**

**Answer any FIVE of the following questions:**

**2×5=10**

1. What is xenia and metaxenia effect?
2. Explain about top cross and double cross hybrids.
3. Name the center of origin of cotton & sugarcane.
4. Name wild species of rice.
5. What is marcotting of sugarcane.
6. What is the scientific name of sweet corn? Mention the genes responsible for production of super sweet corn.
7. What is detaselling?
8. What is aflatoxin?
9. Who is the father of super rice? Mention the characters of green super rice.

**GROUP-B**

**Answer any FOUR of the following questions:**

**5×4=20**

1. Explain the importance of wild rice for disease resistance breeding.
2. Discuss about any two genetic male sterility-based hybrid in pigeonpea.
3. Explain about genepools of soybean.
4. Who is the father of hybrid rice? Explain about two-line hybrid system of rice.  
1+4
5. Write a short note on Quality Protein Maize.
6. "In cotton there is a negative correlation between number of bolls and weight of bolls" - name the breeding method to break this undesirable correlation, explain the procedure.  
1+4
7. Discuss about breeding targets in Moong bean.
8. Write on sex expression in castor.

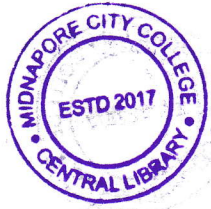
**GROUP-C**

**Answer any TWO of the following questions:**

**10×2=20**

1. Explain about the evaluation of allotetraploid cotton. What are the major breeding objectives of upland cotton?  
4+6

**(P.T.O.)**



(2)

2. Discuss about nobilization of sugarcane. Discuss about the major breeding objectives of sugarcane. 4+6
3. Discuss any two breeding procedures used in maize breeding pogramme. 5+5
4. Differentiate between *Corchorus olitorious* and *Corchorus capsularis*. Discuss the breeding objectives of jute 4+6