



Genetic Improvement of Crops EAG 413-2

**Instructions**

Answer **all** questions

No. of questions : Three (03)

No. of pages : Two (02)

Total marks allocated : 50%

Time : One hour (1hr)

Index No: .....

**Part II - Essay**

**Question 1**

- I. What is a hybrid variety? (5 Marks)
- II. What are the steps in single cross hybrid production? (8 Marks)
- III. Explain the use of controlled pollination systems in hybrid seed production in **one of the following crops**; rice / brinjal / chillie / tomato / maize / sorghum / bean / onion / bittergourd / soybean. (12 Marks)

**Question 2**

- I. Explain the different breeding approaches practiced in the improvement of asexually propagated crops? (15 Marks)
- or
- II. Discuss the advantages and the limitations of asexual reproduction in improvement of vegetatively propagated crops (15 Marks)

**Question 3**

- I. Explain the following statement "Marker assisted selection in plant breeding is an indirect selection" method.

(10 Marks)

or

- II. Write short note on "Gene pyramiding can be achieved using marker assisted selection".

(10 Marks)

or

- III. Discuss the use of molecular markers in confirmation and testing purity of  $F_1$  hybrids.

(10 Marks)