This question paper contains **2** printed pages]

PA—06—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (Third Year) (Sixth Semester) EXAMINATION

APRIL/MAY, 2024

(CBCS/New Pattern)

BOTANY

Paper XIV

(Genetics and Plant Breeding)

(Saturday, 06-04-2024)   **Time : 10.00 a.m. to 12.00 noon**

Time—2 Hours   *Maximum Marks—40*

N.B. :— (*i*)   Attempt *all* questions.

(*ii*)   *All* questions carry equal marks.

(*iii*)   Draw neat and well labelled diagram wherever necessary.

1.   What is linkage ? Explain coupling and repulsion hypothesis with suitable
      example. Add a note on significance of linkage.   15

Or

Explain in brief :

(*a*)   Chromosomal theory and sex determination in birds.   8

(*b*)   Mendel's law of independent assortment.   7

P.T.O.

2. What is mass selection ? Describe procedure, merits and demerits of mass selection. 15

Or

Explain in brief :

(*a*) Mutational breeding with reference to groundnut. 8

(*b*) Plant introduction and acclimatization. 7

3. Write short notes on any *two* : 10

(*a*) CMS

(*b*) Applications of hybridization

(*c*) Klinefelter's Syndrome

(*d*) Sex determination in insects.