

M.Sc. Semester-I Examination, 2022
(AGRICULTURE) IN GENETICS AND PLANT BREEDING
PAPER: GPB 512
CROP BREEDING-II (RABI CROPS)

Full Marks: 50

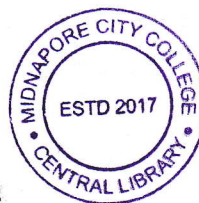
Time: 2 Hours

GROUP-A

1. Answer any **FIVE** questions from the following:

2 X 5 = 10

- a) Write down genome diversity of cotton.
- b) Explain Linen fibre.
- c) Explain floral biology of sunflower.
- d) What is aflatoxin?
- e) Write the chromosome number and two important varieties of following crops i. Sesame ii. Safflower.
- f) Explain Bt cotton.
- g) What is 'Double zero' mustard.
- h) Define prebreeding.



GROUP-B

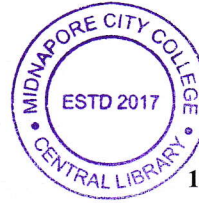
2. Answer any **FOUR** questions from the following:

5 X 4 = 20

- a) Write a short note on quality improvement in wheat.
- b) Write down the problems associated with forage crop breeding.
- c) Write down the fatty acid composition and quality of mustard oil.
- d) Point out the genetic resources and resistance breeding in wheat improvement.
- e) Write down the screening techniques against lepidopteron insect resistance breeding in soybean.
- f) Discuss the major breeding objectives of lentil for West Bengal condition.
- g) Discuss barnase-bar and bastar system.
- h) Briefly discuss about the various components of Gene pool of lentil.

(P.T.O.)

(2)

**GROUP-C****3. Answer any TWO questions from the following:****10 X 2 = 20**

- a) List out six different species of wheat with genomic formula and chromosome number. Explain the chromosome engineering of wheat. 6+4
- b) Discuss about breeding objectives of Indian mustard. What are the major constrains for higher productivity in Indian mustard especially in West Bengal. What is canola breeding? Enumerate in brief, about the origin of amphidiploid species of mustard. 5 (2+3)+1+4
- c) Name the types of chickpea along with their origin and distribution. What are the nutritional advantages of chickpea? Write the breeding objectives of chickpea as far as Indian Scenario is concern. 4+2+4
- d) What are the quality characters for jute fibre? Briefly discuss about photo insensitive jute varieties and their importance in jute breeding programme. Explain the importance of ramie and Mesta in improving the fibre quality and diversification of jute. 4+6
