



PG
M.Sc. Semester-I Examination, 2023
(AGRICULTURE) IN GENETICS AND PLANT BREEDING
PAPER: GPB 512
CROP BREEDING-II (RABI CROPS)

Full Marks: 50

Time: 2 Hours

The figures in the right-hand margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

GROUP-A

1. Answer any FIVE questions:

2 X 5 = 10

- a) Mention two diploid and two tetraploid species of wheat.
- b) Briefly state about the primary gene pool of chickpea
- c) Write down the genomic diversity of cotton.
- d) What is Linen fibre?
- e) What is aflatoxin?
- f) Mention the cultivated species of jute.
- g) What is transgenic cotton.
- h) Explain 'Double zero' mustard.

GROUP-B

2. Answer any FOUR:

5 X 4 = 20

- a) Discuss in short about the breeding methods used in wheat and list some of the major genes for dwarfism with their utilization account.
- b) Write down the problems associated with forage crop breeding.
- c) Write down the fatty acid composition and quality of mustard oil.
- d) State about supplementary pollination along with its importance.
- e) Write down the screening techniques against lepidopteron insect resistance breeding in soybean.
- f) Discuss the major breeding objectives of lentil in West Bengal.
- g) Discuss barnase-bar and bastar system.
- h) Briefly discuss about flowering in barley with suitable diagram.

GROUP-C

3. Answer any TWO:

10 X 2 = 20

- a) Discuss briefly with schematic diagram about the evolution of hexaploid wheat.
Give a detail account of breeding objectives of wheat. 5+5
- b) Describe the floral biology of sunflower. Write the procedure of hybrid development in sunflower. 4+6

(P.T.O.)



(2)

- 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 concerned. 4+2+4
- d) What are the quality characters for jute fibre? Briefly discuss the different techniques of hybrid seed production in cotton. 4+6
