2025

M.Sc. in Agriculture
1st Semester Examination

GENETICS AND PLANT BREEDING

Paper : GPB-512

[Crop Breeding-II (Rabi Crops)]

Full Marks : 70 Time : Two Hours

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

Group - A

Answer any ***five*** questions : 2×5=10

1. Write down the genome diversity of cotton.
2. What is linen fibre?
3. Briefly mention the floral biology of sunflower.
4. Mention the source of rht1, rht2 and rht3 gene of wheat.
5. Write the chromosome number of (i) Taramira and (ii) Safflower.
6. What is Bt cotton?

P.T.O.

7. What is 'Double zero' mustard?

8. Define pre-breeding.

Group - B

Answer any ***four*** questions : 5×4=20

9. Write a short note on quality improvement in wheat.

10. Write down the problems associated with forage crop breeding.

11. Give a short note on fatty acid composition and quality of mustard oil.

12. Point out the genetic resources and resistance breeding in wheat improvement.

13. Explain balanced tertiary trisomes in barley.

14. Discuss the major breeding objectives of rabi pulses.

Group - C

Answer any ***two*** questions : 10×2=20

15. List out six different species of wheat with genomic formula and chromosome number. Give a detail account of breeding objectives of wheat. 6+4

16. Discuss on the origin and breeding objectives of rapeseed-mustard. Briefly enumerate the origin of amphidiploid species of mustard. 6+4

17. Discuss on the origin, evolution and breeding objectives of sunflower. Explain how heterosis is utilized in sunflower improvement. 5+5

18. Which characters of jute fibre are chosen in breeding program for better quality? Briefly discuss the different techniques of hybrid seed production in cotton. 4+6

Internal Assessment : 20 marks
