



K23P 0157

Reg. No. :

Name :

IV Semester M.Sc. Degree (CBSS – Reg./Supple./Imp.)

Examination, April 2023

(2019 Admission Onwards)

BOTANY

BOT4 E08 : Crop Improvement

Time : 3 Hours

Max. Marks : 60

I. Answer any two of the following.

- 1) Write an essay on the application of genetic engineering in crop improvement.
- 2) Discuss various breeding achievements in major cereals and pulses in India.
- 3) Give a detailed account of the method of crop improvement by irradiation breeding procedure. Give some examples of crop varieties bred in India by employing irradiation breeding.
- 4) Write an essay on various selection methods available for crop improvement. Add a note on their advantages and disadvantages. **(2×8=16)**

II. Answer any two of the following :

- 5) Briefly explain any three modern methods of crop improvements by citing two advantages and limitations.
- 6) Mention the basic principles of experimental design for plant breeding trials.
- 7) Enumerate the main objectives and steps of hybridization in crop improvement. **(2×6=12)**

III. Answer any six of the following :

- 8) Explain briefly the procedures involved in seed certification.
- 9) Give a brief account of various methods available to improve wheat.
- 10) What are the advantages and limitations of resistance breeding ?

P.T.O.



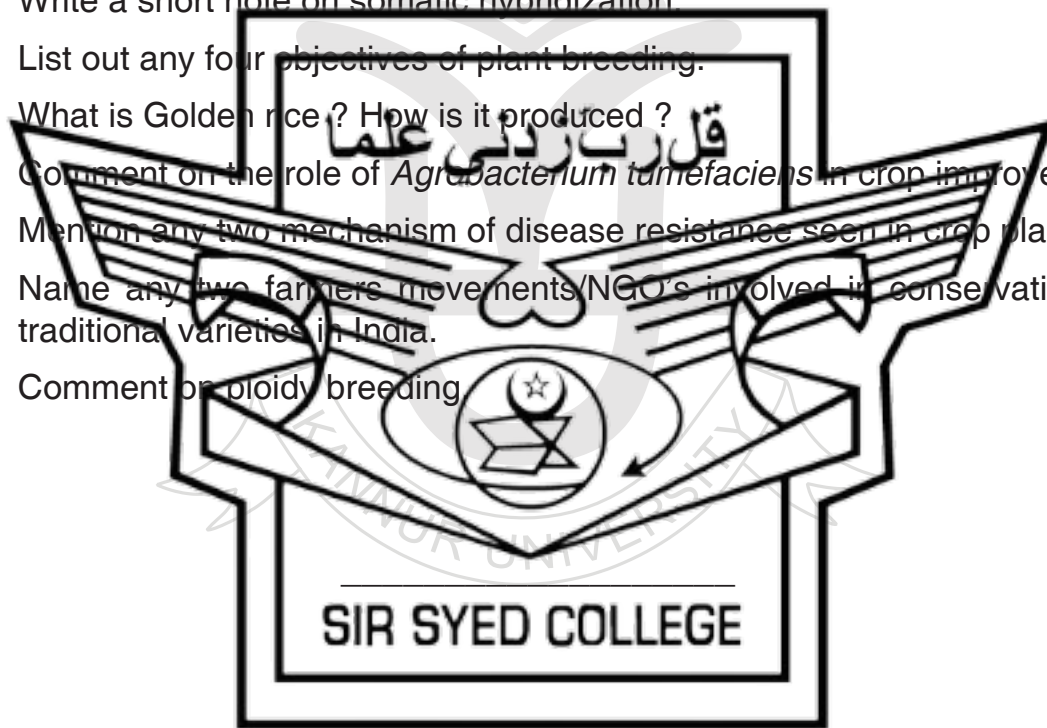
- 11) Write short notes on plant breeding institutes in Kerala.
- 12) Write a note on marker assisted selection.
- 13) Describe the genetic consequences of inbreeding.
- 14) Comment on the salient features protection of Plant Varieties and Farmers Right Act, 2001.
- 15) What is emasculation ? Discuss various types of emasculation methods.

(6×3=18)

IV. Answer **any seven** of the following :

- 16) Define sustainable agriculture with its goal.
- 17) What is meant by seed certification ?
- 18) Differentiate disease resistance from disease tolerance.
- 19) Write a short note on somatic hybridization
- 20) List out any four objectives of plant breeding.
- 21) What is Golden rice ? How is it produced ?
- 22) Comment on the role of *Agrobacterium tumefaciens* in crop improvement.
- 23) Mention any two mechanism of disease resistance seen in crop plants.
- 24) Name any two farmers movements/NGO's involved in conservation of traditional varieties in India.
- 25) Comment on ploidy breeding

(7×2=14)



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