

K22P 3266

Reg. No. : .....

Name : .....

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

Examination, April 2022

(2018 Admission Onwards)

BOTANY

BOT 4E08 : Crop Improvement

Time : 3 Hours

Max. Marks : 60

I. Answer any two of the following. (2×8=16)

- 1) Write a general account of origin, genetic variability, breeding technique and achievements in the area of following crops :
  - a) Rice
  - b) Cotton.
- 2) Write a brief account of Plant Breeding Institutes in India and their major achievements.
- 3) Give an account of genetics of disease, pest and stress resistance.
- 4) Write an account on applications of recombinant DNA technology in crop improvement.

II. Answer any two of the following. (2×6=12)

- 5) a) Micropropagation. 1
- b) *In-vitro* exchange of germ plasm. 2
- c) Clonal propagation methods. 3
- 6) a) Gene banks. 2
- b) Rural gene banks. 1
- c) International network of gene banks. 3
- 7) a) Major food crops of Kerala. 2
- b) Patent Laws. 2
- c) Terminator seed technology. 2

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III. Answer any six of the following.

(6×3=18)

- 8) Somatic variation.
- 9) Nitrogen fixation.
- 10) Polyploids.
- 11) Systems of sterility.
- 12) Resistance breeding.
- 13) Application of haploids.
- 14) Genetics of photosynthesis.
- 15) Heterosis.

IV. Answer any seven of the following.

(7×2=14)

- 16) Breeding Programmes.
- 17) Genetic variability.
- 18) Selection of segregating populations.
- 19) Plant acclimatization improvement.
- 20) Back crossing theory.
- 21) Mutation breeding.
- 22) Inbreeding depression.
- 23) Seed storage proteins.
- 24) Fertilizers in crop improvement.
- 25) Seed certification.