K24P 0266

Reg. No. : .....

Name : .....

IV Semester M.Sc. Degree (C.B.S.S. – Reg./Supple. – (One Time Mercy Chance)/Imp.) Examination, April 2024
(2014 Admission Onwards)
BOTANY
BOT4 E08 : Crop Improvement

Time : 3 Hours Max. Marks : 60

I. Answer **any two** of the following :

1) Describe a detailed account on the methods of breeding for disease resistance in crops. Add a note on the advantages of resistance breeding.
2) Discuss the major prerequisites for a successful hybrid breeding programme - 373.
3) Write an essay on biotechnological approaches in crop improvement programmes.
4) Enumerate the various breeding methods adopted for clonally propagated crop plants. **(2×8=16)**

II. Answer **any two** of the following :

5) Explain various hybridization methods available for breeding better crop varieties.
6) How does plant breeding help for crop productivity with special reference to Indian sub-continent ?
7) Critically discuss the advantages and disadvantages of mutation breeding. **(2×6=12)**

III. Answer **any six** of the following :

8) What are the basic requirements for a transgenic crop development ?
9) Discuss allopolyploidy and its roles in the improvement of crop varieties.
10) Define hybrid vigour. How is it useful to farmers ?

P.T.O.

11) What is a clone ? Describe the clonal propagation methods practiced in rubber.

12) What is the importance of selection in plant breeding ? Differentiate between natural and artificial selection.

13) Discuss the role of micro propagation in crop improvement.

14) Differentiate interspecific hybridization from intra specific hybridization with relevant examples.

15) What is self incompatibility ? How can it be used in plant breeding ? **(6×3=18)**

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

16) Differentiate vertical resistance from horizontal resistance.

17) Briefly explain the role of chemical mutagens in crop improvement.

18) What is meant by terminator seed technology ? Give one example for such seeds.

19) Define clonal selection. Mention any two advantages of it.

20) What are Gamma gardens ? Name any one institute where this facility is available in India.

21) Mention any two application of euploidy in crop improvement.

22) Define heterosis breeding.

23) Name any two cereal crop varieties produced through mutation breeding.

24) Comment on the role of genetic variability in plant breeding.

25) Briefly explain the importance of certified seeds. **(7×2=14)**