Exam. Code : 210003
Subject Code : 3793

M.Sc. (Botany) 3rd Semester
PLANT BREEDING AND IPR
Paper—BOT–C614

Time Allowed—3 Hours] [Maximum Marks—50

SECTION—A

Note :— Attempt **ALL** the questions carrying **1** mark each. Limit your answers upto **4** lines.

1. Define biosafety.
2. What do you understand by hybrid vigour ?
3. Differentiate among primary and secondary introduction of crop plants.
4. Define cluster analysis.
5. Multiline varieties.
6. What do you mean by genetic advance and heritability ?
7. Differentiate between composite and synthetic varieties.
8. TRIPS. $8\times1=8$

SECTION—B

Note :— Attempt any **SEVEN** questions. Each question carries **3** marks. Limit your answers to **2** pages.

9. Briefly discuss about patenting in crops.
10. Explain about the genetics of inbreeding depression in crops.

11. Define pure line and mass selection. Mention the cases where mass selection has played a significant role in agricultural crops.

12. Discuss in brief about the application of multivariate analysis in plant breeding.

13. Briefly discuss the role of aneuploidy in crop breeding.

14. Explain in short about the utility and exploitation of male sterility in breeding of crop plants.

15. Define hybridization. Discuss its types. Discuss the significance of wild crosses in crop breeding.

16. Briefly discuss about the significance of mutation breeding.

17. Discuss the sources and genetics of fungal disease resistance in crop plants.

18. Briefly discuss about the role of plant introduction in crop breeding. Mention about the various organizations which are associated with plant introduction in India.

$7 \times 3 = 21$

SECTION—C

Note :— Attempt any **THREE** questions. Each question carries **7** marks. Limit your answers to **4** pages.

19. What do you understand by self-incompatibility ? Discuss the types of self-incompatibility systems in plants. Explain briefly the plant breeding complications of self-incompatibility.

20. Discuss in detail about the role of polyploids in breeding of crops.

21. Write an illustrated account about the methodology and significance of genetic engineering in modern day crop breeding.

22. Define interspecific hybridisation. Discuss giving examples the role of interspecific hybrids in crops.

23. Write an illustrated account about the different methods which could be employed in breeding self pollinated crops.

$3\times7=21$