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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2022

Fifth Semester

Core Course—GENETICS, PLANT BREEDING AND HORTICULTURE

(Common for B.Sc. Botany Model I, Model II)

[2013 to 2016 Admissions]

Time : Three Hours

Maximum Marks : 60

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What is inbreeding depression ?
2. What is an orchard ?
3. Mention the ratio of complementary gene interaction.
4. What is interference ?
5. What is codominance ?
6. What is floriculture ?
7. Define Hardy Weinberg law.
8. Name any two agencies of plant introduction in India.

$(8 \times 1 = 8)$

Part B

Answer any **six** *questions.*
Each question carries 2 *marks.*

9. Differentiate between Training and Pruning.
10. Write a note on bonsai containers.
11. Write down steps for seed bed preparation.
12. List any four objectives of plant breeding.
13. Mention any four achievements in mutation breeding.
14. Explain self-sterility in Nicotiana.
15. What is Y-linked inheritance ?
16. What is two-point test cross ?

Turn over

17. What is law of independent assortment ?
18. What is genic balance theory ? Mention its significance.

(6 × 2 = 12)

Part C

Answer any **four** *questions.*
Each question carries 4 *marks.*

19. What is XX-XY mechanism ? Explain.
20. Explain extra nuclear inheritance using Kappa particle in Paramecium as an example.
21. Describe mapping of chromosomes.
22. Explain approach grafting in detail.
23. Comment on 'male sterility in plant breeding'.
24. Give a concise account on pruning and tillage tools.

(4 × 4 = 16)

Part D

Answer any **two** *questions.*
Each question carries 12 *marks.*

25. Explain in detail about garden components.
26. Briefly explain polygenic inheritance using kernel colour in wheat and ear size in maize.
27. With a checker board explain interaction of genes, coat colour in mice as example.
28. Give a brief account of modern tools of plant breeding.

(2 × 12 = 24)