

E 6138



Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, SEPTEMBER 2024

Sixth Semester

Core Course—GENETICS, PLANT BREEDING AND HORTICULTURE

[Common for B.Sc. Botany Model I, Model II and B.Sc. Botany and
Biotechnology (Double Core)]

(Prior to 2011 Admissions)

Time : Three Hours

Maximum Weight : 25

Part A (Objective Type)

Answer all questions.

Weight 1 each for a bunch of four questions.

- I. 1 F_2 phenotypic ratio for complementary gene interaction is :
- (a) 12 : 3 : 1. (b) 9 : 3 : 4.
(c) 9 : 7. (d) 9 : 3 : 3 : 1.
- 2 ABO - Blood group in man is an example for :
- (a) Multiple alleles. (b) Polygenes.
(c) Epistasis. (d) Inhibitory genes.
- 3 Individuals having Turner's syndrome have a chromosome number :
- (a) 45. (b) 46.
(c) 47. (d) 48.
- 4 Genic balance theory was proposed by :
- (a) Bridges. (b) Morgan.
(c) Beadle. (d) Gregory.
- II. 5 The variety of wheat released in 1967 by mutation breeding.
- (a) Sonora - 64. (b) Sarbathi.
(c) Sarbathi Sonora - 64. (d) T - 141.





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- 6 Where is IARI located :
- (a) New Delhi. (b) Chennai.
(c) Mumbai. (d) Lucknow.
- 7 Which of the following is not used in seed treatment ?
- (a) Gibberellin. (b) Cytokinin.
(c) Ethylene. (d) Tetrazolium.
- 8 A plant showing incomplete dominance is :
- (a) Mirabilis. (b) Cucurbita.
(c) Lathyrus. (d) Pisum Sativum.

III. Fill in the blanks :

- 9 The inability of seeds to germinate due to internal causes is called _____.
- 10 Scientific name of carpet grass is _____.
- 11 Study of vegetables is called _____.
- 12 _____ are pieces of earth with compact grass on them.

IV. State true or False :

- 13 Direct seeding promotes early maturity.
- 14 Male sterility is never due to failure of pollar formation.
- 15 Mass selection is done in cross-pollinated varieties.
- 16 The occurrence of one cross over reduces the chance of a second cross over in its neighbourhood.

(4 × 1 = 4)

Part B (Short Answer Questions)

*Answer any five of the following.
Each question carries 1 weight.*

- 17 What are holandric genes ?
- 18 What are plastogenes ?
- 19 What is seed certification ?
- 20 Distinguish between edges and hedges.





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- 21 What is horizontal resistance ?
- 22 What is heterosis ?
- 23 Distinguish between training and pruning of plants.
- 24 Mention the advantages of seed propagation.

(5 × 1 = 5)

Part C (Short Answer Questions)

*Answer any **four** of the following.
Each question carries 2 weight.*

- 25 Explain recessive epistasis with suitable example.
- 26 Explain Hardy Weinberg law.
- 27 Bring out the importance of apomixis in plant breeding.
- 28 What are the main objectives of plant breeding ?
- 29 Mention the advantages and disadvantages of drip irrigation.
- 30 Write a note on kitchen gardens.

(4 × 2 = 8)

Part D (Essay type)

*Answer any **two** of the following.
Each question carries 4 weight.*

- 31 Give a detailed account of vegetation propagation.
- 32 Citing suitable example describe sex-linked inheritance.
- 33 Write a note on polyploidy breeding.

(2 × 4 = 8)

