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BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Sc.(Ag)-Hons-2021/B.Sc.(Ag)-Hons-2023

Course Name – Crop Improvement-II (Rabi Crops)/Crop Improvement-II (Rabi crops)

Course Code - CC-BAG676 (T)/CC-BAG676(T)

(Semester VI)

Full Marks : 50

Time : 2:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

- (i) Interpret the square root of variance from the following.
 - a) Standard deviation
 - b) Heritability
 - c) Genetic advance
 - d) None of these
- (ii) Identify the method is used for Purification and Maintenance of Pureline Varieties.
 - a) Pureline
 - b) Mass selection
 - c) Pedigree selection
 - d) Bulk selection
- (iii) Relate which of the following is a farmer variety.
 - a) Obsolete variety
 - b) Landraces
 - c) Mutant line
 - d) Breeding lines
- (iv) Select the chromosome number of endosperm of wheat.
 - a) 42
 - b) 21
 - c) 63
 - d) 14
- (v) Identify from which generation onwards, selection can be practised.
 - a) F1
 - b) F2
 - c) F3
 - d) F4
- (vi) Recall the chromosome number of Triticum aestivum.
 - a) 21
 - b) 42
 - c) 7
 - d) 14
- (vii) Infer under which category field gene bank falls from the following.
 - a) In-situ germplasm conservation
 - b) Ex-situ germplasm conservation
 - c) Can be considered under both the categories
 - d) None of these
- (viii) Identify the pre-requisite of a plant breeding programme.
 - a) Introduction
 - b) variability
 - c) Selection
 - d) Acclimatisation

- (ix) Infer the chromosome number of *Triticum monococcum*.
 a) 21 b) 42
 c) 7 d) 14
- (x) What is the chromosome number of oats?
 a) 42 b) 21
 c) 14 d) 7
- (xi) What is the chromosome number of Barley?
 a) 42 b) 21
 c) 14 d) 7
- (xii) Which of the following is an example of amphidiploid.
 a) *B.campestris* b) *T.aestivum*
 c) *T.monococcum* d) *B.juncea*
- (xiii) Identify the antinutritional compound in mustard.
 a) BOAA b) Erucic acid
 c) PUFA d) MUFA
- (xiv) Choose the crop which have maximum PUFA content.
 a) Sunflower b) Safflower
 c) Castor d) Mustard
- (xv) Infer the scientific name of two rowed barley.
 a) *Hordeum vulgare* b) *Hordeum distichum*
 c) *Hordeum irregular* d) *Avena sativa*
- (xvi) Identify the family which expresses glucosinolates.
 a) Poaceae b) Brassicaceae
 c) Leguminoceae d) Asteraceae
- (xvii) Choose the crop where pedigree method of breeding can be followed.
 a) Wheat b) Maize
 c) Bajra d) None of the given options
- (xviii) Choose the crop where recurrent selection can be followed.
 a) Wheat b) Oats
 c) Maize d) Barley
- (xix) Select the ideal sowing time of wheat.
 a) Nov-Dec b) Jun-July
 c) March-April d) April-May
- (xx) Identify the ploidy level of cultivated bread wheat.
 a) Autohexaploid b) Autotetraploid
 c) Allohexaploid d) Allotetraploid

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Group-B

(Short Answer Type Questions)

2.5 x
 10=25

2. Infer why population improvement is important for cross pollinated crops. (2.5)
 3. Determine the ex-situ germplasm conservation methods. (2.5)
 4. Estimate the chromosome number of the endosperm of wheat. (2.5)
 5. Compare between traditional breeding approach and ideotype breeding approach. (2.5)
 6. Explain the floral biology of wheat. (2.5)
 7. What is the scientific name and family of Rapeseed. (2.5)
 8. Discuss the Nagaharu U triangle. (2.5)
 9. What are crop wild relatives and their utilisation in crop improvement? (2.5)
 10. Organise the breeding objective of wheat. (2.5)
 11. Explain the various categories of germplasm. (2.5)
- OR

Explain multiline and the utilization in crop improvement.

(2.5)

Group-C

(Long Answer Type Questions)

5 x 1=5

12. Discuss about the various categories of germplasm.

(5)

OR

Discuss about the floral biology, breeding objective of wheat and breeding methods involved for improvement of wheat. (5)

L. ary
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