



BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Sc.(Ag)-Hons-2021
Course Name – Crop Improvement-II (Rabi Crops)
Course Code - 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) Identify the ways which are used to reduce error in an experiment
 - a) Replication
 - b) Randomisation
 - c) Local control
 - d) All 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) Identify the source of Dwarfing Genes in Wheat.
 - a) Dee-geo-woo-gen
 - b) Tift 23 A
 - c) Norin 10
 - d) Pseudogenes
- (iv) Relate which of the following is a farmer variety
 - a) Obsolete variety
 - b) Landraces
 - c) Mutant line
 - d) Breeding lines
- (v) Select the chromosome number of endosperm of wheat
 - a) 42
 - b) 21
 - c) 63
 - d) 14
- (vi) Identify the breeding method where maximum expertise of a breeder is required
 - a) Mass Selection
 - b) Pedigree Method
 - c) Bulk Method
 - d) Single seed decent method
- (vii) Identify the reason for variability in a pureline population
 - a) Genetic variation
 - b) Additive genetic variation
 - c) Environmental variation
 - d) Random genetic drift
- (viii) Explain the genetic base of the Tester used for Recurrent Selection for Specific Combining Ability
 - a) Broad genetic base
 - b) Narrow genetic base
 - c) Weak competitor
 - d) All of these
- (ix) Recall the term given to the farmers variety from the following.

- a) Land race
c) Wild relatives
- b) Obsolete variety
d) Modern cultivars
- (x) Identify the term given to the seeds which cannot be stored under low temperature and humidity
- a) Orthodox seed
c) Core seed
- b) Recalcitrant seed
d) Foundation seed
- (xi) Identify the corner stone of plant breeding
- a) Introduction
c) Selection
- b) Domestication
d) Acclimatisation
- (xii) Identify the reason for cross pollination in maize
- a) Complete flower
c) Protogyny
- b) Protandry
d) Dioecy
- (xiii) Recall the chromosome number of *Triticum aestivum*
- a) 21
c) 7
- b) 42
d) 14
- (xiv) Infer the genetic constitution of *Triticum aestivum*
- a) AABBCC
c) AABB
- b) AABBDD
d) BBDD
- (xv) Identify the generation where maximum heterozygosity can be observed.
- a) F1
c) F3
- b) F2
d) F4
- (xvi) Infer the chromosome number of *Triticum monococcum*
- a) 21
c) 7
- b) 42
d) 14
- (xvii) What is the chromosome number of oats
- a) 42
c) 14
- b) 21
d) 7
- (xviii) Recall the scientific name of Barley
- a) *Avena sativa*
c) *Triticum aestivum*
- b) *Avena fatua*
d) *Hordeum vulgare*
- (xix) Identify the compound which renders linseed oil inedible
- a) linamarin
c) erucic acid
- b) ricinolin
d) prussic acid
- (xx) Identify the family which expresses glucosinolates
- a) Poaceae
c) Leguminoceae
- b) Brassicaceae
d) Asteraceae

Group-B

(Short Answer Type Questions)

2.5 x
10=25

2. What is Genetic erosion (2.5)
3. Recall two examples of semi dwarf wheat varieties. (2.5)
4. Infer a short note on field gene bank (2.5)
5. Determine the ex-situ germplasm conservation methods. (2.5)
6. Estimate the chromosome number of the endosperm of wheat (2.5)
7. Organise the breeding objective of mustard? (2.5)
8. Infer the breeding methods of self-pollinated crops (2.5)
9. Discuss the Nagaharu U triangle. (2.5)
10. Explain the origin of cultivated bred wheat (2.5)
11. Compare between traditional breeding approach and ideotype breeding approach (2.5)

OR

Assess the genetic constitution of *Triticum dicoccum* and *Triticum aestivum* (2.5)

Group-C
(Long Answer Type Questions) 5 x 1=5

12. Discuss about the various categories of germplasm. (5)

OR

Construct the steps of ideotype breeding (5)
