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Program
ASPG3205

6th Semester Examination: April 2023

CROP IMPROVEMENT-II (FIBRE, SUGAR, STARCHES, NARCOTICS,
VEGETABLES, FRUITS & FLOWERS)

Full Marks: 30

Time: 2 Hrs.

Answer Part-A, Part-B & Part-C as per the instructions there in.

The figure in the right hand margin indicates marks.

PART – A

[5]

1. Fill in the blanks: [5x0.5=2.5]
- Brassica campestris* originated from the cross between&.....
 - Ideotype for rice for drought conditions was proposed by.....in the year.....
 - The varieties were developed by systematic breeding efforts, were once cultivated but are no more grown are called as.....
 - Triticum turgidum* has the genome constitution.....
 - Ability of the crop to mature early before occurrence of drought is called as.....
2. Matching Table: [5x0.5=2.5]
- According to chromosome number
- | | |
|------------------|------------------------------|
| a) Black mustard | (i) <i>Helianthus annuus</i> |
| b) Sunflower | (ii) <i>Avena sativa</i> |
| c) Bread Wheat | (iii) <i>Hordeum vulgare</i> |
| d) Barley | (iv) <i>B. nigra</i> |
| e) Oat | (v) <i>T. aestivum</i> |

PART – B

[10]

3. Choose the correct answer or True/ False statement: [5x1=5]
- The rate of reproduction of pathogen in immune reaction is zero
 - Ideotype Breeding was developed by Rasmusson in wheat in the year 1968
 - Domestication may be regarded as the second most important method in Plant Breeding
 - N.I Vavilov developed the concept of centers of origin, and homologous series in variation
 - The chromosome number in sugarcane is $2n=90$
4. Define the following: [5x1=5]

- a) Ideotype breeding
- b) Hypersensitive reaction
- c) Horizontal resistance
- d) Primary centre of origin
- e) Base collection

PART – C (Answer any Three)

[3x5=15]

- 5. What is gene pool and mentioned the types of gene pool. [5]
- 6. Define ideotype breeding. Briefly describe the various steps in ideotype breeding. Write the ideotype for Rice. [5]
- 7. Discuss the mechanism of disease resistance [5]
- 8. Discuss the evolution of *Brassica* Sp. and *Nicotiana tabacum* [5]
- 9. Write short notes on any **One**:- [5]
 - a) Define salt tolerance. Explain the ways to overcome the problem of salinity and mention the selection criteria for salt tolerance.
 - b) Explain the disease triangle and boom and bust cycle with diagram.