

Roll No.

Total No. of Pages : 02

Total No. of Questions : 18

**B.Sc. (Honours) (Agriculture) (Sem.-3)**  
**FUNDAMENTALS OF PLANT BREEDING**  
**Subject Code : BSAG-302-19**  
**M.Code : 78657**

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

**SECTION-A**

**Write short note on :**

- 1) Heritability
- 2) Multiline
- 3) Heterosis
- 4) Microsatellite markers
- 5) EMS as mutant
- 6) Inbred line
- 7) CGMS
- 8) Wild crop relative
- 9) Hardy Weinberg Law
- 10) Transgressive segregants

## SECTION-B

- 11) Define mutations. What are the characteristics of mutations and their role in plant breeding?
- 12) What is apomixis? Apomixis can be beneficial as well as nuisance to a plant breeder, justify with suitable example.
- 13) What is recurrent selection? List the various types of recurrent selection. Which scheme do you prefer and why?
- 14) Discuss various applications and limitations of distant hybridization in crop improvement.
- 15) What is a clone? What are the main characteristics of clones? Compare clones, Inbreds and pure lines.

## SECTION-C

- 16) What is back cross method of breeding? Explain the transfer of recessive gene (aphid resistance) into a cultivated variety of brassica which is susceptible to that particular insect.
- 17) a) What are IPRs? Explain the PPVFRA.  
b) What are DNA markers? List uses of DNA markers in Plant breeding.
- 18) Define autopolyploidy. Briefly describe the methods of production of autopolyploids and their importance and limitations in crop improvement.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**