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B.Sc. (Agriculture) (Sem.-7)
GENETICS OF CROP PLANTS
Subject Code : BSAGPGB-701
M.Code : 77097

Max. Marks : 60

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.

1. Write briefly :

- a) Constitutive Genes
- b) Alternative Splicing
- c) Somatic and Germinal Variations
- d) Transposons
- e) Homologous Recombination
- f) Gene Pool
- g) Recombination frequency
- h) Promoters and Enhancers
- i) Nucleotide and Nucleoside
- j) Linkage

SECTION-B

2.
 - a) Highlight major differences between genome organizations in prokaryotes and Eukaryotes.
 - b) Discuss briefly about genetic recombination in eukaryotes.
3.
 - a) Define Mutations, its characteristics and implications.
 - b) What do you understand by Silent, mis-sense and non-sense mutations?
4.
 - a) Discuss Hardy-Weinberg law.
 - b) Define genetic Variability and Genetic drift.
5. Differentiate between the following :
 - a) Backcross and Testcross
 - b) Qualitative and Quantitative traits with example
 - c) Genotype and Phenotype
6. Write short notes on :
 - a) Histone modifications
 - b) Post transcriptional gene regulation

SECTION-C

7. Discuss in details the mechanism of DNA replication.
8. Discuss in details about cytoplasmic inheritance mode. How does it differ from nuclear inheritance?
9.
 - a) What do you understand by genomic and cDNA libraries?
 - b) Enlist various methods of genetic transformation and describe any one method in detail.

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.