

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (Hons.) (Agriculture) (Sem.-2)

FUNDAMENTALS TO GENETICS

Subject Code : BSAG-201-19

M.Code : 77662

Date of Examination : 13-12-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS 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

1. Write briefly :

- a) Transversion
- b) Turner's syndrome
- c) Polytene chromosomes
- d) Lamp brush chromosomes
- e) B-DNA
- f) Synaptonemal complex
- g) Frameshift mutation
- h) Lethal gene
- i) Nucleosome
- j) XXXY condition.

SECTION-B

Differentiate between:

2. Penetrance and Expressivity.
3. Sex linked and Sex limited Traits
4. Complementary gene action and supplementary gene action.
5. Physical mutagens and Chemical mutagens.
6. Paracentric inversion and Pericentric inversion

SECTION-C

7. Discuss in detail the process of translation (draw neat and well labeled diagram). Also, discuss the characteristic features of genetic code.
8.
 - a) Prove that DNA is a genetic material by citing a suitable experimental evidence.
 - b) Explain cytoplasmic inheritance with suitable examples.
9.
 - a) Discuss the *trp* operon system in detail.
 - b) Explain the multiple factor hypotheses with suitable classical example.

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.