

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 09

B.Sc.(Agriculture) (2014 to 2018)/ B.Sc. (Hons.)(Agriculture)
(Sem.-3)

INTRODUCTION TO GENETICS

Subject Code : BSAG-304

M.Code : 72554

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. Define or briefly describe the following :

- 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. Inducible and Repressible operon
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 **(any two)**.
9.
 - a) Discuss the evolutionary history of cotton.
 - b) Explain the mechanisms **(any two)** of crossing over.

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.