



Reg. No. :

Name :

**VI Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, April 2023
(2019 and 2020 Admissions)
CORE COURSE IN BOTANY/PLANT SCIENCE
6B11BOT/PLS : Genetics, Molecular Biology and Plant Breeding**

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams wherever necessary.

**SECTION – A
(Objective Type Questions)**

Answer all :

- In Melandrium, type of sex determination is of
 - XX-XY
 - XX-XO
 - ZZ-ZW
 - XY-XO
- The most common DNA conformation is
 - Z-DNA
 - B-DNA
 - C-DNA
 - A-DNA
- Site of transcription in cell is
 - Nucleus
 - Ribosomes
 - Endoplasmic reticulum
 - None of the above
- Sioux, an hybrid crop variety is of
 - Potato
 - Cow-pea
 - Chilly
 - Tomato

(4×1=4)

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**SECTION – B
(Short Essay Questions)**

Answer any eight :

- Define law of independent assortment.
- What is meant by co-dominance ? Give example.
- What is meant by non-epistatic interaction of gene ?
- Describe the gene interaction in Lathyrus regarding flower colour.
- Differentiate between penetrance and expressivity.
- What is Poky in Neurospora ?
- Differentiate between transition and transversion.
- Differentiate between centromere and telomere.
- Define karyotype and ideogram.
- What are polytene chromosomes ?
- Distinguish between aneuploidy and euploidy.
- What is meant by Turner syndrome ?

(8×2=16)

**SECTION – C
(Essay questions)**

Answer any four :

- Describe eugenics and euphenics in detail.
- Explain extra-nuclear inheritance in Mirabilis.



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- Describe the mechanism of crossing over.
- Give an account of action of various mutagens.
- Write an account of Human genome project and its significance.
- Explain the mechanism of pest resistance in plants.

(4×3=12)

**SECTION – D
(Long Essay Questions)**

Answer any one :

- Explain various evidences for DNA as genetic material.
- Describe operon concept with suitable examples.
- Give an account of mutation breeding.

(1×8=8)