

Reg. No. :

Name :

VI Semester B.Sc. Degree (CBCSS – OBE – Regular)
Examination, April 2022
(2019 Admission)
CORE COURSE IN BOTANY/PLANT SCIENCE
6B12BOT/PLS : Biotechnology and Bioinformatics

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams wherever specified.**PART – A****Objective type questions. Answer all :****(4×1=4)**

- In tissue culture of parenchyma, mitosis is accelerated in the presence of
 - Auxin
 - Cytokinin
 - Gibberellin
 - Both auxin and cytokinin
- A fast-growing new field of science that seeks to predict the structure of a protein from its nucleotide sequence is called
 - Genomics
 - Proteomics
 - Bioinformatics
 - Both a) and c)
- Excision and insertion of a gene is called
 - Biotechnology
 - Genetic Engineering
 - Cytogenetics
 - Gene therapy
- The first researcher to sequence a genome in 1977, was
 - Todd Golub
 - Frederick Sanger
 - Craig Venter
 - Stephen Fodor

PART – B**Short essay questions. Answer any eight :****(8×2=16)**

- What is Totipotency ? Explain the significance of this in Biotechnology.
- Distinguish between cDNA library and genomic library.

P.T.O.



- What is NGS ?
- Briefly explain genetically modified foods.
- Give a brief account on biosensors.
- What are artificial seeds ?
- Explain PCR.
- What is dedifferentiation ?
- How can you proceed to find Taxonomic position of the organism through DNA Data Bank of Japan ?
- Write an account on suspension cultures.
- Explain about the nanoparticles in nature with examples.
- Explain briefly about BLAST.

PART – C**Essay questions. Answer any four :****(4×3=12)**

- Explain the Southern blotting technique.
- What is somatic embryogenesis and add notes on its protocol ?
- Why is nutrient medium autoclaved before it is used for tissue culture ? How will you sterilise hormones ? Justify.
- What is bioinformatics ? Why is it a multidisciplinary field ?
- Write notes on artificial vectors.
- What are the physical methods used in introducing DNA to cells ?

PART – D**Long essay questions. Answer any one :****(1×8=8)**

- Write an essay on *Agrobacterium* mediated gene transfer with illustration.
- Define genomics. Describe about different classes of genomics. What are the applications of genomic analysis and studies ?
- Write an account on Somatic hybridization.