D 140091 **(Pages : 2)** **Name.....**

Reg. No.....

SIXTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION, APRIL 2026

Botany

BOT 6B 11—BIOTECHNOLOGY, MOLECULAR BIOLOGY AND BIOINFORMATICS

(2020 Admission Onwards)

Time : Two Hours Maximum : 60 Marks

Section A

All questions can be answered.
Each question carries 2 marks.
Ceiling 20 marks.

1. What is Ti plasmids ?
2. What is central dogma protein ?
3. Give an examples of physical mutagens.
4. Define recons.
5. What is the process of replication ?
6. What is meant by electroporation ?
7. Give an account on BRNET.
8. What is biocomputation ?
9. Define green computing.
10. What is Swiss Prot format ?
11. What is Human growth hormone and its function ?
12. Mention the scope of bioinformatics.

(Ceiling 20 marks)

Section B

All questions can be answered.
Each question carries 5 marks.
Ceiling 30 marks.

13. Give a brief account on the Gene regulation in eukaryotes.
14. Explain the structure and the types of RNA.

Turn over

15. Discuss about one gene one enzyme hypothesis.
16. What are the causes and consequences spontaneous and induced mutation ?
17. A brief account on Molecular visualization - use of Rasmol.
18. Determine the Human genome database.
19. Explain about the Agrobacterium mediated for gene transfer.

(Ceiling 30 marks)

Section C

Answer any **one** *question, the question carries 10 marks.*

20. What is biotechnology ? Briefly explain the application and various fields involved in the biotechnology
21. Explain the major findings and relevance of the following Human,Genome projects genome.

(1 × 10 = 10 marks)

D 120081 **(Pages : 2)** **Name.....**

Reg. No.....

SIXTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
MARCH 2025

Botany

BOT 6B 11—BIOTECHNOLOGY, MOLECULAR BIOLOGY AND BIOINFORMATICS

(Admissions Year—2019 Onwards)

Time : Two Hours Maximum : 60 Marks

Section A

All questions can be answered.
Each question carries 2 *marks.*
Ceiling : 20 *marks.*

1. What is DNA replication ?
2. What is meant by plasmids ?
3. What is the principle of micro- injection ?
4. What is biolistic ?
5. Define electroporation.
6. What is bioinformatics ?
7. What is floriculture and horticulture ?
8. Differentiate prokaryotes and eukaryotes.
9. What is Transcription ?
10. Write the process of translation.
11. Explain INFLIBNET.
12. What is mutons ?

Turn over

Section B

All questions can be answered.
Each question carries 5 *marks.*
Ceiling : 30 *marks.*

13. Construct the history of biotechnology.

14. Give brief out the genetically modified Bt crops and its types.

15. How to prove DNA as the genetic material by Griffith's and Avery's experiments.

16. Overview of prokaryotic gene regulation in operon concept.

17. A brief account on molecular phylogeny and phylogenetic trees.

18. Brief out the web page designing and web hosting.

19. Point out the scope and relevance of bioinformatics.

Section C

Answer any **one** *question, each question carries* 10 *marks.*

20. Write detailed about Recombinant DNA Technology.

21. Explain the different methods using for gene transfer.

(1 × 10 = 10 marks)

D 100511 **(Pages : 2)** **Name.....**

Reg. No.....

SIXTH SEMESTER U.G. DEGREE EXAMINATION, MARCH 2024

(CBCSS—UG)

Botany

BOT 6B 11—BIOTECHNOLOGY, MOLECULAR BIOLOGY AND BIOINFORMATICS

(2019 Admission onwards)

Time : Two Hours Maximum : 60 Marks

Section A

Answer **all** *questions.*
Each question carries 2 *marks.*
Ceiling : 20 *Marks.*

1. Write a note on Polymerase chain reaction.
2. Briefly describe the structural details of Ti Plasmid.
3. Define Mutations. What are its consequences ?
4. Explain Teminism.
5. What is Green computing ? What are its relevance ?
6. Write a note on Genebanks.
7. What are the modern concepts of gene ?
8. What are obtained from PDB ?
9. What is a Primer ?
10. What are the applications of Artificial intelligence in biology ?
11. What is Flavr Savr tomato ?
12. What are the salient features of Type II restriction endonucleases ?

Turn over

Section B

Answer **all** *questions.*
Each question carries 5 *marks.*
Ceiling : 30 *Marks.*

13. What are the different types of RNAs ? Describe its properties and structure.
14. Explain Molecular Phylogeny.
15. Describe Sanger's method of DNA sequencing
16. Write a brief account of different types of gene transfer methods
17. Describe the regulation of gene action in a Lac operon.
18. Discuss the potential of GM technology in agriculture.
19. Describe the characteristics of Genetic code.

Section C

Answer any **one** *question.*
The question carries 10 *marks.*

20. Explain the central dogma of molecular biology and describe in detail how proteins are synthesized in a cell.
21. Write an essay on Biological databases and its significance.

(1 × 10 = 10 marks)