



11535

Reg. No.

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

V Semester B.Sc. Degree Examination, April - 2022

BOTANY

Taxonomy and Economic Botany

(CBCS Scheme Freshers Repeaters 2016-17 onwards)

Paper: V



Time : 3 Hours

Maximum Marks : 70

*Instructions to Candidates:*

- i) Answer all parts.
- ii) Draw diagrams wherever necessary.

## PART-A

A. Define/ Explain any ten of the following in two or three sentences. (10×2=20)

1. Expand OTU
2. Mention any two National Botanical gardens.
3. What is Labellum? Give an example.
4. Define hooded anthers. Give an example.
5. What is tetradynamous condition? Give an example.
6. Draw a neat labelled diagram of papilionaceous corolla.
7. What are Adnate stipules? Give an example.
8. Define Gynobasic style. Give an example.
9. Define Follicle. Give an example.
10. Define Monochasial helicoid cyme. Give an example.
11. Give the economic importance of Cardamom and name the part used.
12. Write the Botanical name of Aloe vera and Indian Pennywort.

[P.T.O.]



(2)

11535

**PART - B**

**B. Write Critical notes on any four of the following.**

**(4×5=20)**

13. Computer applications in Taxonomy.
14. Floras and their importance.
15. Salient features of Arecaceae.
16. Cyathium.
17. Key characters of Acanthaceae.
18. Tendrils of Cucurbitaceae.

**PART - C**

**C. Give a comprehensive account on any three of the following.**

**(3×10=30)**

19. Engler and prantl system of classification.
  20. What is Binomial Nomenclature? Explain the principles and aims of ICBN.
  21. Give a comparative account of sub families caesalpinaceae and Mimosaceae.
  22. Comment on
    - a) Teak wood and Rose wood.
    - b) Spikelet
  23. Enumerate the general characters of the family Asteraceae.
-



11536

Reg. No.

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

V Semester B.Sc. Degree Examination, April - 2022

BOTANY

Molecular Biology, Genetic Engineering, Biotechnology and Plant Physiology  
(CBCS Scheme Freshers and Repeaters)

Paper: VI



Time : 3 Hours

Maximum Marks : 70

*Instructions to Candidates:*

- i) Answer all parts.
- ii) Draw diagram and write examples wherever necessary.

## PART - A

A. Define/ Explain any ten of the following in two or three sentences. (10×2=20)

1. Differentiate between permeable and semi-permeable membrane.
2. List any four enzymes involved in DNA replication.
3. Sketch and label hydathode structure.
4. What is meant by vein unloading?
5. Tools used in Genetic Engineering. (Any four).
6. Define micro nutrients. Give an example.
7. What is water potential? Mention its components.
8. Factors affecting rate of transpiration. (Any four)
9. Mention any two uses of microbes in industry.
10. List any two characteristic features of genetic code.
11. Define ascent of sap.
12. Significance of diffusion in plants.

[P.T.O.]



(2)

11536

**PART - B**

**B. Write Critical notes on any four of the following.**

**(4×5=20)**

13. Salt stress.
14. Griffith's experiment.
15. Source-Sink concept.
16. Plasmolysis and significance.
17. Clover-leaf model of tRNA.
18. Importance of water to plants.

**PART - C**

**C. Give a comprehensive account on any three of the following.**

**(3×10=30)**

19. Explain physical force theories.
  20. Active and passive absorption of water.
  21. With a neat labelled diagram, explain the double helical structure of DNA.
  22. What is transpiration? Explain the theories related to stomatal mechanism.
  23. Gene regulation in prokaryotes.
-



11554

Reg. No.

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

V Semester B.Sc. Degree Examination, March/April - 2022

**ZOOLOGY****Environmental Biology and Ethology****(CBCS Scheme Freshers & Repeaters 2020-2021 onwards)****Paper: V****Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates:**

- i) Answer should be completely in English.
- ii) Draw neat labelled diagrams wherever necessary.

**PART - A****I. Answer the following questions in one word or one sentence each. (10×1=10)**

1. Define synecology.
2. State the first law of thermodynamics
3. Name any two gases that cause global warming.
4. What are carbamates?
5. Define biomagnification.
6. What is nuclear energy?
7. What is remote sensing?
8. Define motivation.
9. What is acquired behaviour?
10. Define biological rhythm.

**[P.T.O.]**





(2)

11554

**PART - B**

**II. Answer any five of the following**

**(5×3=15)**

11. Define ecological niche. Mention any two types.
12. Write a note on polyclimax theory.
13. Differentiate between natality and mortality.
14. What are endangered species.
15. Write any three applications of remote sensing.
16. Give the components of reflex arc.
17. Write a note on bioluminescence.

**PART - C**

**III. Answer any five of the following.**

**(5×5=25)**

18. Explain multidimensional niche with example.
19. What is xerosere explain with example.
20. Give an account on acid rain and its impact on terrestrial environment and built environment.
21. Write a note on landfill.
22. Give an account on Physical and biological approaches of integrated pest management.
23. Explain trial and error method of learning.
24. Honey bees are social insects. Justify.

**PART - D**

**IV. Answer any Two of the following.**

**(2×10=20)**

25. Light is an abiotic factor. Discuss
26. Explain
  - a) Any two negative interspecific interaction with example.
  - b) The Applications of GIS.



27. Discuss exsitu conservation of wildlife.

28. Write notes on

- a) Pheromones in vertebrates
  - b) Courtship behaviour.
-



11555

Reg. No.

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

V Semester B.Sc. Degree Examination, March/April - 2022

**ZOOLOGY****Genetics and Biotechnology****(CBCS Scheme Freshers & Repeaters 2021 onwards)****Paper: VI****Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates:**

- i) Answer should be completely in English.
- ii) Draw labelled diagrams wherever necessary.

**PART-A****I. Answer the following questions in one word or one sentence. (10×1=10)**

1. Define phenocopy
2. Name the cross in which  $F_1$  offspring is crossed with recessive parent.
3. What are kappa particles?
4. Write the chromosomal complement of Down's syndrome.
5. What are allosomes?
6. Define artificial insemination.
7. Define Transgenesis.
8. What is somatic cell genetherapy?
9. What is the extra chromosomal DNA in bacteria called?
10. Expand RAPD.

**[P.T.O.]**



**PART - B****II. Answer any five of the following****(5×3=15)**

11. Write a note on Norm of Reaction.
12. Explain Y-linked inheritance with an example.
13. Write a brief note on Albinism.
14. Distinguish between Euthenics and Euphenics.
15. Mention the role of the following molecular tools.
  - a) Restriction enzymes.
  - b) DNA ligase
  - c) Alkaline phosphatase.
16. What are Bioreactors? Mention any two applications of it.
17. List any three applications of Monoclonal antibodies.

**PART - C****III. Answer any five of the following:****(5×5=25)**

18. Define Multiple alleles? Give the genotypes of ABO Blood groups.
19. Note: Haemophilia is a X-linked recessive disease.

A man whose father was haemophilic marries a normal woman whose father was also haemophilic. What is the chance of haemophilia among their children?

Construct a Pedigree chart.

20. Write a note on Klinefelter's syndrome.
21. What are mutagens? Explain physical mutagens.
22. Give an account on polytene chromosomes.
23. What are stem cells? Explain its types.
24. Explain Knock-in technology in Mice.

**PART - D****IV. Answer any two of the following:****(2×10=20)**

25. Explain the law of independent assortment with a suitable example.
  26. Write a note on inheritance of :
    - a) Colour blindness in Man
    - b) Shell coiling in snail.
  27. Define sex-determination. Explain different types of sex-determination.
  28. Describe the steps involved in DNA finger printing. Add a note on its applications.
-