

GENETICS (31CT31)

SECTION – A Very Short Answer

Answer ANY FIVE of the following:

(5X2=10 Marks)

1. Write short note on lytic cycle.
2. Comment on transposable elements.
3. What is point mutation?
4. Comment on single-base alteration in DNA.
5. How does epistasis deviate from Mendelian concept?
6. State Chargaff's rule.
7. Differentiate cistron and gene.

SECTION – B Short Answer

Answer ANY FOUR of the following in short:

(4X5=20 Marks)

8. Write a note on genetic organization of virus.
9. What are the basic differences between generalized and specialized transduction?
10. Give a brief account on nucleotide excision-repair.
11. What is gene interaction? Give an illustrative note on allelic interactions.
12. Enumerate the types of DNA with unique features.
13. Describe non – allelic gene interaction with appropriate illustrations.

SECTION – C Long Answer

Answer ANY TWO of the following in detail:

(2 X 10=20 Marks)

14. Explain the molecular mechanism of lysogenic pathway. Mention its significance.
15. Give an account on genetic structure and organization of lambda phage DNA.
16. Elaborate the molecular aspects of recon.

PHYSIOLOGY (31CT32)

SECTION – A

ANSWER ANY FIVE QUESTIONS

5X2=10 Marks

Very Short Answer

1. What is buoyancy?
2. What is meant by Hamburger phenomenon?
3. What is Q_{10} ?
4. Hematocrit.
5. Kymograph.
6. Define neuron.
7. Sphygmomanometer.

SECTION – B

ANSWER ANY FOUR QUESTIONS

4X5=20 Marks

Short Answer

8. What are the respiratory organs found in the animals and add a note on their functions?
9. "O₂ as a limiting factor"- Discuss.
10. Describe briefly the Sliding Filament Theory.
11. Write an account various physical properties of blood.
12. Explain the structure and types of neuron.
13. Give a brief account on Cardiac cycle.

SECTION – C

ANSWER ANY TWO QUESTIONS

2x10=20 Marks

Long Answer

14. Expound the mechanism of transport of gases.
15. Write an essay on mechanics of muscle and movement of animal.
16. Describe the mechanism of blood circulation in man.

APPLIED BIOLOGY – 31NE31

SECTION – A

ANSWER ANY FIVE QUESTIONS

5X2=10 Marks

Very Short Answer

1. What is meant by biological control?
2. Define Pest
3. State the problems caused by the construction of Dam
4. Define Paedogenesis
5. State the importance of sterilization.
6. Define callus
7. What is Fermentation?

SECTION – B

ANSWER ANY FOUR QUESTIONS

4X5=20 Marks

Short Answer

8. What are non-renewable energy resources? Explain
9. Write an account on soil profile and texture
10. Describe the predatory biological control giving appropriate examples
11. Explain the different methods of soil conservation
12. Explain the stirred tank fermenter with diagram
13. What is single cell protein? Give its significances

SECTION – C

ANSWER ANY TWO QUESTIONS

2x10=20 Marks

Long Answer

14. Write an account on the importance and methods of water management
15. Write an essay on renewable energy resources
16. Give a detailed account on plant tissue culture.