

BIOLOGY 12 GUESS PAPER 2026

SHORT QUESTIONS

Chapter 15: Homeostasis

1. Define homeostasis. Give example.
2. What is thermoregulation?
3. Define osmoregulation.
4. What is excretion?
5. Name nitrogenous wastes in mammals, birds, fish.
6. What is urea cycle? Where does it occur?
7. Define dialysis. Give types.
8. What is lithotripsy?
9. Differentiate xerophytes and halophytes.
10. What is kidney stone?

Chapter 16: Support & Movement

11. Define hydrostatic skeleton.
12. What is exoskeleton? Give example.
13. Differentiate bone and cartilage.
14. What is osteoporosis?
15. Define muscle fatigue.
16. What is tetany?
17. What is sliding filament model?
18. Give functions of Ca^{++} in muscle contraction.
19. What is arthritis? Give types.
20. What is tropism?

Chapter 17: Coordination & Control

21. Define neuron. Give types.
22. What is resting membrane potential?
23. Define synapse.
24. What is reflex action?
25. Differentiate CNS and PNS.
26. What is myopia and hypermetropia?
27. Name hormones of pituitary gland.
28. What is feedback mechanism?
29. Define nerve impulse.
30. What is Parkinson's disease?

Chapter 18: Reproduction

31. Define parthenogenesis.
32. What is binary fission?
33. Differentiate spermatogenesis and oogenesis.
34. What is menstrual cycle?
35. Define menopause.
36. What is STD? Give 2 examples.
37. Define cloning.
38. What is test tube baby?
39. Define photoperiodism.
40. What is seed dormancy?

Chapter 19: Growth & Development

41. Define growth. Give phases.
42. What is differentiation?

43. Define embryonic induction.
44. What is aging?
45. Give role of gibberellins.
46. What is apical dominance?
47. Define regeneration.

Chapter 20: Chromosomes & DNA

48. What is nucleosome?
49. Define gene and allele.
50. What is central dogma?
51. Define transcription and translation.
52. What is genetic code?
53. What is mutation? Give types.
54. Define transposon.
55. What is PCR?

Chapter 21: Cell Cycle

56. Define cell cycle.
57. What is G0 phase?
58. Define mitosis and meiosis.
59. What is crossing over?
60. Define apoptosis.
61. What is cancer?
62. Differentiate benign and malignant tumor.

Chapter 22: Variation & Genetics

63. Define phenotype and genotype.
64. What is test cross?
65. State Mendel's law of segregation.
66. What is incomplete dominance?
67. Define sex linkage.
68. What is hemophilia?
69. What is Rh factor?
70. Define epistasis.

Chapter 23: Biotechnology

71. What is recombinant DNA?
72. Define plasmid.
73. What is gene therapy?
74. Give 2 uses of biotechnology.
75. What is transgenic organism?

Chapter 24: Evolution

76. Define evolution.
77. What is Lamarckism?
78. State Darwin's theory.
79. Define natural selection.
80. What is Hardy-Weinberg theorem?
81. Define fossil.

Chapter 25: Ecosystem

82. Define ecosystem.
83. What is food chain and food web?
84. Define ecological pyramid.
85. What is nitrogen cycle?
86. Define succession.

Chapter 26: Some Major Ecosystems

87. What is biome?
88. Give 2 adaptations of desert plants.
89. Define tundra.

Chapter 27: Man and His Environment

90. What is pollution? Give types.
91. Define green house effect.
92. What is ozone depletion?
93. Define acid rain.
94. What is eutrophication?
95. Give 2 effects of deforestation.

LONG QUESTIONS

Chapter 15: Homeostasis

1. Describe structure and function of nephron with diagram.
2. Explain osmoregulation in plants. How do xerophytes adapt?
3. What is excretion? Discuss excretion in mammals.

Chapter 16: Support & Movement

4. Describe structure of skeletal muscle. Explain sliding filament model of muscle contraction.
5. Write note on human skeleton. Give role of skeleton.
6. Explain joints. Give types with examples. Add note on arthritis.

Chapter 17: Coordination & Control

7. Describe structure of neuron. Explain nerve impulse conduction.
8. Write note on pituitary gland. Give its hormones and functions.
9. Describe human brain. Give functions of its parts.
10. Explain structure of eye. How is image formed?

Chapter 18: Reproduction

11. Describe male reproductive system of man with diagram.
12. Explain female reproductive system. Describe menstrual cycle.
13. What are sexually transmitted diseases? Discuss AIDS.
14. Describe double fertilization in angiosperms.

Chapter 19: Growth & Development

15. Define growth. Explain phases of growth. Give role of plant hormones.
16. Describe development of chick up to 3 germ layers.

Chapter 20: Chromosomes & DNA

17. Describe Watson-Crick model of DNA. Give replication of DNA.
18. What is protein synthesis? Explain transcription and translation.
19. Define mutation. Explain types and causes of mutation.

Chapter 21: Cell Cycle

20. Describe mitosis. Give its significance.
21. Explain meiosis I with diagram. Why is meiosis important?
22. What is cancer? Give causes, types and treatment.

Chapter 22: Variation & Genetics

23. State and explain Mendel's laws of inheritance with examples.
24. What is sex determination? Explain sex linkage in *Drosophila* and man.
25. Describe ABO blood group system. What is Rh factor?

Chapter 23: Biotechnology

26. What is genetic engineering? Explain steps of recombinant DNA technology.
27. Write applications of biotechnology in agriculture and medicine.

Chapter 24: Evolution

28. Describe Darwin's theory of natural selection. Give evidences of evolution.
29. Explain Hardy-Weinberg theorem. What factors affect gene frequency?

Chapter 25 & 27: Ecosystem & Environment

30. What is nitrogen cycle? Explain with diagram.
31. What is pollution? Discuss air pollution, causes, effects and control.

12th Biology - Long Questions

Chapter 15: Homeostasis

1. Describe structure and function of nephron with diagram.
2. Explain osmoregulation in plants. How do xerophytes and halophytes adapt to their environment?
3. What is excretion? Discuss excretion in mammals. Explain urea cycle.
4. Describe kidney problems. Explain dialysis and kidney transplant.

Chapter 21: Cell Cycle

5. Describe mitosis in detail with diagrams. Give its significance.
6. Explain meiosis I and meiosis II with diagrams. Why is meiosis important?
7. What is cell cycle? Describe its phases. Explain control of cell cycle.
8. What is cancer? Give causes, types, diagnosis and treatment of cancer.
9. Define apoptosis. Differentiate between apoptosis and necrosis.

Chapter 17: Coordination & Control

10. Describe structure of neuron. Explain mechanism of nerve impulse conduction.
11. Write note on human brain. Give structure and functions of its major parts.
12. Describe structure of human eye. Explain mechanism of image formation and accommodation.
13. What are endocrine glands? Describe pituitary gland, its hormones and functions.
14. Explain feedback mechanism with reference to thyroid gland.
15. What is nervous disorder? Write note on Parkinson's disease and epilepsy.

Chapter 24: Evolution

16. Describe Darwin's theory of natural selection. Give objections to it.
17. What are evidences of evolution? Explain from anatomy and embryology.
18. Explain Hardy-Weinberg theorem. What factors affect gene frequency?
19. Compare Lamarckism and Darwinism.
20. What is evolution from prokaryotes to eukaryotes? Explain endosymbiont hypothesis.

Chapter 16: Support & Movement

21. Describe structure of skeletal muscle. Explain sliding filament model of muscle contraction.
22. Write note on human skeleton. Describe axial skeleton.
23. Explain joints in human body. Give types with examples. Add note on arthritis and osteoporosis.
24. What are plant movements? Explain turgor movements and growth movements.
25. Describe disorders of skeleton: disc slip, spondylosis, sciatica.

Chapter 25: Ecosystem

26. Define ecosystem. Describe components of ecosystem with examples.
27. What is nitrogen cycle? Explain with diagram and importance.
28. Explain energy flow in ecosystem. Describe food chain, food web and ecological pyramids.
29. What is ecological succession? Explain xerarch and hydrarch succession.
30. Describe carbon cycle with diagram. Give human impact on carbon cycle.