

CLASS XI

SAMPLE PAPER

BIOLOGY

1. What are Phanerogams? What is the other name for them?
2. Why is the spleen known as blood bank?
3. Which hormone is known as an immunosuppressive and a stress hormone?
4. Name the enzyme secreted by the digestive system of a man to digest proteins in acidic and alkaline medium.
5. What is fungi imperfecti? Give out line classification of kingdom fungi.
6. Give the botanical name of a plant of family fabaceae. Show the floral formula and floral diagram of the same plant.
7. Name any one cranial nerve that controls eye ball movement. Is this nerve a sensory, a motor or a mixed one?
8. Describe the functions of the endoplasmic reticulum.
9. What is synapse? Explain how nerve impulse is transmitted across a synapse?
10. What is meant by biological nitrogen fixation? Explain the process of biological nitrogen fixation. Give role of leg-hemoglobin in nitrogen fixation.
11. In most plants the terminal bud suppresses the development of nearby lateral buds. What is this phenomenon called as? Name the phytohormone that can promote this phenomenon.
12. Name a gaseous plant hormone and mention its three different actions on plants.
13. What are tidal volume and vital capacity?
14. Give the full form of ADH. Name the gland that secretes it. It is released under what condition of the body? What is its role in forming hypertonic urine? What is the disease caused due to the failure of its secretion?
15. Name and explain three phases of Calvin cycle. Where does this cycle takes place in a cell.
16. What are the two heart sounds? How are these sounds produced?
17. Why right ventricular wall is thinner than the left ventricular wall?
18. What is cork cambium? Give the name of a tissue formed by cork cambium.
19. Draw a well labeled diagram of digestive system of an earthworm. What is the role of gizzard and typhlosole in digestive system of an earthworm?
20. Describe the sequence of the events in meiosis I. What are the special events of homologous chromosomes during meiosis?
21. What is the function of the mucus present in gastric juice?

22. Nostoc and anabaena have specialized cells called heterocysts. What is the function of these cells?
23. How are bacteria classified on the basis of their shapes?
24. Why red tides are caused and why are they harmful?
25. When a fungus called coprophilous?
26. Which group of plant is regarded as first terrestrial plant? Why?
27. Roots in some Gymnosperms have fungal or algal association. Give examples their names and role in the plants.
28. Draw the life cycle of an angiosperm along with a brief note on double fertilization.
29. Why are corals important?
30. What is the difference between class amphibian and class reptilian in respect of their skin?
31. Differentiate between poikilothermous and homoiothermous organisms.
32. List the characteristic features of class mammalian.
33. What are the features of class aves which help them in flying?
34. Differentiate between chondrichthyes and osteichthyes.
35. Which part of mango fruit is edible?
36. State the main function of leaf tendril.
37. Write the floral formula of family Liliaceae.
38. The endosperm is formed as a result of double fertilization (Triple Fusion). What is its function?
39. Name the type of root for the following :-
 - a) Roots performing the function of photosynthesis.
 - b) Roots come above the surface of the soil to absorb air.
 - c) The pillar like roots developed from lateral branches for providing mechanical support.
40. Explain the terms and their types with examples:-
 - a) Aestivation
 - b) Phyllotaxy
41. Differentiate between :-
 - a) Actinomorphic flower and Zygomorphic flower.
 - b) Racemose inflorescence and cymose inflorescence.
42. Name the tissue used for making ropes.
43. Where the bulliform cells found in leaves?
44. Which tissue of the leaf contains chloroplast?
45. What are trichomes ? State their functions.
46. Mention two special properties of nervous tissue.
47. Name the cells present in adipose tissue.
48. Name the cell responsible for clotting of blood.
49. What are endocrine glands?
50. Differentiate between skeletal and smooth muscles

51. Differentiate between Aerenchyma and Collenchyma on the basis of their structure and function.
52. Which part of stomata constitutes the stomatal apparatus?
53. What is the function of ciliated epithelium? Name the parts where this tissue can be located.
54. How many segments are present in the abdomen of cockroach?
55. What is the function of malpighian tubules?
56. Differentiate between gram positive and gram negative bacteria.

57. Give the expanded form of PLO.
58. What is Plasmodesmata?
59. State the functions of two different types of Endoplasmic Reticulum.
60. What are the functions performed by Golgi apparatus?
61. What is the function of chloroplasts and leucoplasts?
62. Which is the largest single cell?
63. Differentiate between active and passive transport.
64. Explain the fluid mosaic model of plasma membrane with the help of a labeled diagram.
65. Diagrammatically represent the types of chromosomes based on the position of centromere.
66. What is plasmid? What is its importance?
67. What are amino acids? Name the different types of amino acids with at least one example of each.
68. Differentiate between purine and pyrimidines.
69. How a peptide bond is formed?
70. Explain the factors which affect the enzymatic activity of a protein.
71. What is the important difference between RNA and DNA in terms of nitrogen base?
72. Give the structure of Zwitter ionic form of an amino acid.
73. Explain Watson - Crick Model of DNA structure.
74. Explain the terms:-
 - a) Peptide bond
 - b) Glycosidic bond
 - c) Phosphodiester bond.
75. Briefly explain the different phases of cell cycle.
76. What is the G₀ phase of cell cycle?
77. Give at least two significance of meiosis.
78. What are kinetochores?
79. What is chiasmata? State its significance.
80. Differentiate between mitosis and meiosis.
81. Why do generally oils remain in liquid state even in winters?
82. Why does starch give blue black color with iodine?
83. What do you understand with the term Plasmolysis?
84. Explain the mechanism of closing and opening of stomata.
85. Name the substance that impart pink colour to the root nodules of a leguminous plant and also mention its role.
86. Name one symbiotic nitrogen-fixing bacteria?
87. Explain the steps in biological nitrogen fixation in brief.
88. Describe with diagram how root nodules are formed in leguminous plants.
89. Name the factors which affect the rate of photosynthesis?
90. Which compound acts as CO₂ acceptor in Calvin cycle?
91. What are the steps that are common to C₃ and C₄ photosynthesis?
92. Differentiate between cyclic and non-cyclic photophosphorylation?
93. Define Respiratory Quotient. What is its value for fat and protein?
94. What is glycolysis? Where glycolysis does takes place in a cell? Give schematic representation of glycolysis.
95. Name the only gaseous plant hormone.
96. How does Abscisic acid acts as stress hormone in drought condition?
97. Where are Auxin generally produced in a plant? Name any one naturally occurring plant Auxin and any one synthetic Auxin.
98. Write dental formula of man.

99. Name the fluid filled double membranous layer which surround the lungs. Also state its function.
100. What is Emphysema? Give its cause.