

ICSE Class 10 • Biology

Important Questions 2027

Most repeated questions from the last few years of board and sample papers, grouped chapter-wise.

Cell Cycle and Cell Division

1. Draw a neat, labelled diagram of an animal cell having 4 chromosomes in the metaphase stage.

Seen in: Board 2025 • Sample 2027

2. A pair of corresponding chromosomes of the same shape, size and one from each parent is called: (a) Autosomes (b) Allosomes (c) Analogous chromosomes (d) Homologous chromosomes

Seen in: Sample 2024, 2025

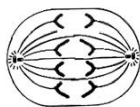
3. Synthesis phase in the cell cycle is called so, because of the synthesis of more: (a) Glucose (b) Proteins (c) RNA (d) DNA

Seen in: Board 2023 • Sample 2024

4. Differentiate between Karyokinesis and Cytokinesis.

Seen in: Board 2023 • Sample 2024

5. The diagram represents a stage in mitosis. (a) Identify the stage given above. (b) Give one reason to support your answer in (a). (c) Mention the number of chromosomes given in the diagram.



Seen in: Board 2024 • Sample 2023

6. A male gorilla has 48 chromosomes in each of its body cells. How many chromosomes will each of the sperms have? (a) 24 (b) 48 (c) 12 (d) 16

Seen in: Board 2023, 2024

Structure of Chromosome

7. A sequence of DNA has 300 nitrogenous base pairs, of which 75 are Guanine. What is the number of Thymine in this sequence? (a) 150 (b) 100 (c) 50 (d) 75

Seen in: Board 2026 • Sample 2024

8. Read the explanation and name the structure: The point of attachment of two chromatids of a chromosome.

Seen in: Board 2024, 2025

- 9.** Mention the two pairs of nitrogenous bases that are present in a DNA strand and pair with each other by hydrogen bonds.

Seen in: Board 2023, 2025

Genetics

- 10.** State Mendel's Law of Segregation of gametes.

Seen in: Board 2023 · Sample 2023, 2025, 2027

- 11.** Differentiate between the terms Phenotype and Genotype.

Seen in: Sample 2023, 2024, 2025

- 12.** Give the common name and the scientific name of the plant on which Gregor Mendel conducted his breeding experiments.

Seen in: Sample 2025, 2026

- 13.** State Mendel's Law of Dominance.

Seen in: Sample 2024, 2026

- 14.** Mention the number of Autosomes and Allosomes in a human body cell.

Seen in: Board 2026 · Sample 2026

- 15.** Name the following: The basic units of heredity.

Seen in: Sample 2023, 2025

- 16.** Name the following: The type of gene, which in the presence of a contrasting allele, is not expressed.

Seen in: Sample 2023, 2024

- 17.** A family has a history of colour blindness. The mother is a carrier ($X^c X$) and the father has normal vision (XY). What is the probability of their sons being colour blind? (a) 25% (b) 50% (c) 75% (d) 0%

Seen in: Board 2026 · Sample 2023

- 18.** Four friends P, Q, R and S discussed examples of genetic disorders. P. Colour blindness and Malaria Q. Albinism and Cholera R. Haemophilia and Colour blindness S. Haemophilia and Albinism. Who gave the correct examples? (a) P and Q (b) R and S (c) P and R (d) Q and S

Seen in: Board 2024, 2026

Absorption by Roots and Ascent of Sap

- 19.** Root hairs are epidermal outgrowths well suited for absorption of water due to: P - Large surface area, Q - Lower concentration of cell sap, R - Higher concentration of cell sap, S - Freely permeable cell membrane. (a) P and S (b) Q and S (c) P and R (d) R and S

Seen in: Board 2024 · Sample 2025, 2027

- 20.** Meena's mother prepared a cucumber salad garnished with salt and pepper. After some time a lot of water accumulated in the salad bowl. The cucumber slices underwent: (a) active transport (b) transpiration (c) exosmosis (d) endosmosis

Seen in: Sample 2025, 2027

- 21.** Draw a neat, labelled diagram to show the internal structure of a root hair.

Seen in: Sample 2025, 2026

- 22.** Arrange and rewrite the terms in correct logical sequence beginning with the underlined term: Endodermis, Cortex, Xylem, Epidermis.

Seen in: Board 2023 · Sample 2023, 2024

- 23.** State the permeability of cell membrane and cell wall.

Seen in: Sample 2023, 2026

- 24.** Hari placed a salt water clown fish in a freshwater aquarium and after a few hours it was found dead and floating. This was due to: (a) Endosmosis (b) Exosmosis (c) Osmoregulation (d) Excretion

Seen in: Sample 2023, 2024

- 25.** Varun's mother added plenty of salt to the mango pickle she made. This is to: A. enhance the colour of the pickle. B. inhibit the growth of microorganisms. C. increase the nutritional value. D. create a hypertonic solution. (a) A and C (b) B and C (c) C and D (d) B and D

Seen in: Board 2026 · Sample 2023

- 26.** Explain the term - Active transport.

Seen in: Board 2023 · Sample 2025

Transpiration

- 27.** Explain how the process (transpiration) will differ on a rainy day.

Seen in: Sample 2025, 2026, 2027

- 28.** Avinash placed a potted plant on a windowsill on a hot summer morning; the leaves wilted though the soil was well watered, and regained turgidity indoors. Name the process responsible for the wilting of leaves.

Seen in: Board 2026 · Sample 2023, 2027

29. Give the biological/technical term: Respiratory openings present on the stems of woody plants.

Seen in: Board 2023 · Sample 2025, 2027

30. List three adaptations in plants to reduce this process (transpiration).

Seen in: Board 2023, 2026 · Sample 2027

31. The process in which water is lost from the margins of strawberry leaves is: (a) Osmosis (b) Imbibition (c) Diffusion (d) Guttation

Seen in: Board 2024 · Sample 2023, 2024

32. Meena covered a potted plant with a transparent plastic bag and observed water droplets inside the bag after a few hours in sunlight. (a) Name the process that resulted in the formation of water droplets inside the bag. (b) Define the process mentioned above.



Seen in: Sample 2023, 2026

33. Define the above process (responsible for wilting of leaves).

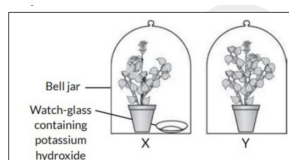
Seen in: Board 2023 · Sample 2027

Photosynthesis

34. Write the balanced equation for photosynthesis. Name the mineral element essential for the formation of chlorophyll.

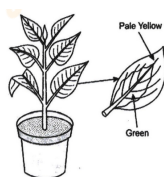
Seen in: Board 2023, 2025, 2026 · Sample 2024, 2025, 2027

35. A potted plant under a bell jar with a watch glass containing potassium hydroxide is placed in sunlight for three hours; after exposure none of the leaves of plant X turned blue black with iodine, while control plant Y did. What is the aim of the experiment?



Seen in: Board 2024 · Sample 2027

36. A potted plant with variegated leaves was kept in dark for 24 hours then placed in bright sunlight. Answer: (a) Which aspect of photosynthesis is being tested? (b) Why was the plant kept in dark for 24 hours? (c) After the starch test what will be the colour of the yellow and green parts of the leaf? Give reasons.

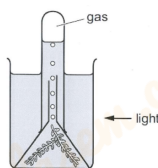


Seen in: Board 2023 · Sample 2024, 2026

37. Give the biological/technical term: The ground substance present in a chloroplast.

Seen in: Sample 2024, 2026

38. Study the diagram (aquatic plant releasing gas in sunlight). (a) Name the gas released when the setup was placed in sunlight. (b) Give an example of an aquatic plant that can be used in the above experiment. (c) What will happen if a pinch of Sodium bicarbonate is added to the water?



(a) Name the gas released when the setup was placed in sunlight.

Seen in: Board 2025 · Sample 2024

39. Expand the abbreviations: (a) NADP (b) ADP.

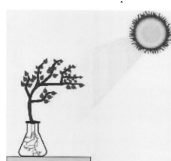
Seen in: Board 2024, 2026

40. The site of light reaction in the cells of a green leaf is: (a) Nucleus (b) Grana of chloroplast (c) Cytoplasm (d) Stroma of chloroplast

Seen in: Board 2023 · Sample 2023

Chemical Coordination in Plants

41. Study the diagram (potted plant bending towards sunlight). (a) Name the phenomenon depicted by the shoot. (b) Which plant hormone plays an important role in the above movement? (c) Name one stimulus which gives a positive response for the roots but negative response for the shoot.



(a) Name the phenomenon depicted by the shoot in the above diagram.

Seen in: Board 2023 · Sample 2024, 2027

42. What is Parthenocarpy? Give one example.

Seen in: Sample 2023, 2025

43. A farmer notices that storing ripe mangoes with unripe ones speeds up the ripening process. The phytohormone primarily responsible is: (a) Auxins (b) Cytokinins (c) Gibberellins (d) Ethylene

Seen in: Board 2023 · Sample 2026

44. Choose the odd one out and name the category to which the others belong: Auxin, Oxytocin, Gibberellin, Cytokinin.

Seen in: Board 2026 · Sample 2023

45. Ali has some pea plants which need a support to grow. (a) Name the phenomenon depicted by the shoot. (b) Define the above phenomenon. (c) Write the name of the part marked X.

picture given below:



Seen in: Board 2024, 2026

46. The diagram shows a type of tropism (pollen tube growing towards the ovule). (a) Name the type of tropism. (b) Define the above mentioned tropism. (c) Give an example of a stimulant that helps in the growth of the part marked A.

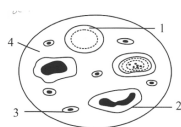


(a) Name the type of tropism.

Seen in: Board 2024 · Sample 2023

Circulatory System

47. Diagram of human blood smear. (a) Mention one structural difference between 1 and 2. (b) What is the function of part 3? (c) Name the part labelled 4.



Seen in: Sample 2024, 2027

- 48.** The path of blood flow during pulmonary circulation is: (a) Right auricle, Right ventricle, Pulmonary artery, Lungs, Pulmonary veins, Left auricle. (b) Left auricle, Left ventricle, Pulmonary veins, Lungs, Pulmonary artery, Right auricle. (c) Left auricle, Left ventricle, Aorta, Tissues, Vena cava, Right auricle. (d) Right auricle, Right ventricle, Pulmonary veins, Lungs, Pulmonary artery, Left auricle.

Seen in: Board 2026 · Sample 2027

- 49.** Choose the ODD term out and mention the category to which the remaining three belong: Haemoglobin, Fibrin, Prothrombin, Fibrinogen.

Seen in: Board 2024 · Sample 2027

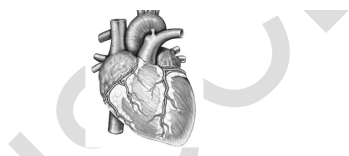
- 50.** Choose the ODD term out and mention the category to which the remaining three belong: Neutrophil, Monocyte, Eosinophil, Basophil.

Seen in: Board 2024 · Sample 2027

- 51.** Draw a neat, labelled diagram of a cross section of an Artery and a Vein.

Seen in: Sample 2023, 2026

- 52.** Diagram of a human heart. Fill in the blanks: The heart is enclosed by a membrane called (a) _____ (Pericardium/Pleura). The ventricles give rise to two large blood vessels called (b) _____ (Pulmonary vein/Pulmonary artery) and (c) _____ (Aorta/Venacava). The flaps of the cuspid valves are kept in position by (d) _____ (Chordae tendinae/Endometrium). (e) _____ (Hepatic/Coronary) arteries supply oxygenated blood to the walls of the heart.



Seen in: Board 2025 · Sample 2026

- 53.** During the ventricular systole, the atrioventricular valves (P) _____ and the semilunar valves (Q) _____. (a) P - close and Q - open (b) P - close and Q - close (c) P - open and Q - close (d) P - open and Q - open

Seen in: Board 2026 · Sample 2025

- 54.** Mention two structural differences between an artery and a vein.

Seen in: Board 2024 · Sample 2024

- 55.** RBCs do not have nuclei. Discuss its advantage.

Seen in: Board 2024, 2026

Excretory System

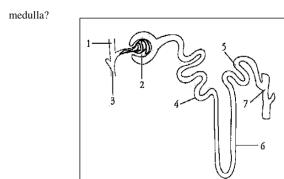
56. What is Excretion?

Seen in: Board 2025 · Sample 2023, 2026

57. Mention the regions of the kidney where we can find glomerulus and Henle's loop.

Seen in: Sample 2025, 2026

58. Which parts of the nephron are present in the renal cortex and renal medulla? (a) Renal Cortex - 1, 2, 3; Renal Medulla - 4, 5, 6, 7 (b) Renal Cortex - 1, 2, 3, 4, 5; Renal Medulla - 6, 7 (c) Renal Cortex - 4, 5, 6, 7; Renal Medulla - 1, 2, 3 (d) Renal Cortex - 1, 2, 3, 4; Renal Medulla - 5, 6, 7



Seen in: Board 2023 · Sample 2027

59. Assertion (A): We urinate more in summer. Reason (R): Sweat glands are more active in summer. (a) A is True and R is False (b) A is False and R is True (c) Both A and R are True (d) Both A and R are False

Seen in: Sample 2024, 2025

60. Choose the odd term out and mention the category to which the remaining three belong: Ureter, Urethra, Uterus, Renal Pelvis.

Seen in: Board 2023 · Sample 2026

61. Choose the odd one out and name the category to which the others belong: Urochrome, Urea, Uric acid, Nucleic acid.

Seen in: Board 2026 · Sample 2024

Nervous System and Sense Organs

62. Which part of the ear equalizes air pressure on either side of the ear drum? Where is this structure located?

Seen in: Board 2025 · Sample 2025, 2026

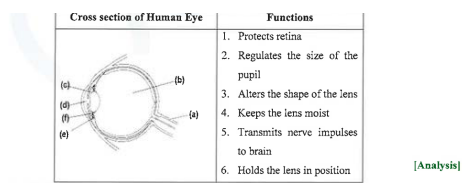
63. Assertion (A): Rods and Cones are photoreceptors in the sclera of eyeball. Reason (R): Rods are sensitive to dim light. (a) A is True and R is False. (b) A is False and R is True. (c) Both A and R are True. (d) Both A and R are False.

Seen in: Sample 2023, 2024, 2025

64. Arrange and rewrite the terms in correct logical sequence beginning with the underlined term: Auditory canal, Organ of Corti, Stapes, Malleus.

Seen in: Sample 2023, 2024, 2025

- 65.** Cross section of the human eye. Match the structures marked (a) to (e) with their correct functions: Functions - 1. Protects retina 2. Regulates the size of the pupil 3. Alters the shape of the lens 4. Keeps the lens moist 5. Transmits nerve impulses to brain 6. Holds the lens in position.



Seen in: Sample 2025, 2026

- 66.** What is the reason for Hyperopia? How can it be corrected?

Seen in: Board 2026 · Sample 2027

- 67.** Give the biological/technical term: The neurotransmitter stored in the axon endings of neurons.

Seen in: Board 2026 · Sample 2027

- 68.** (a) Name the fluid present between the meninges in spinal cord. (b) What is its function?

Seen in: Board 2026 · Sample 2026

- 69.** Rahul inserted a hairpin into his right ear to remove ear wax. He felt a sudden sharp pain with loss of hearing. This was due to: (a) Rupture of eardrum (b) Rupture of vestibule (c) Rupture of cornea (d) Rupture of pinna

Seen in: Sample 2024, 2025

- 70.** Bharat woke up late and missed the school bus. This situation stimulated the nerves of the sympathetic system which resulted in: (a) Constriction of Coronary arteries (b) Muscle relaxation (c) Decrease in Respiration rate (d) Bronchodilation

Seen in: Board 2023, 2024, 2026

- 71.** Copy the diagram (transverse section of spinal cord). (a) Name the structure. (b) Label Gray matter and White matter.



Seen in: Board 2026 · Sample 2025

- 72.** Arrange and rewrite the terms in correct logical sequence beginning with the underlined term: Pupil, Aqueous humour, Retina, Vitreous humour.

Seen in: Board 2023, 2024 · Sample 2023

73. Ayush was focussing intently on the strokes of the opponent player in a carrom match. (a) Which part of the brain helps Ayush to focus on the game? (b) Name the part of the brain that co-ordinates his muscles while using the striker.

Seen in: Board 2024 · Sample 2026

74. Rachna, an expert gymnast on the balance beam, has been experiencing dizziness and losing her balance. (a) Which part of the membranous labyrinth is responsible for maintaining the body balance on the beam? (b) Which type of balance is maintained by the structure mentioned in (a)?

Seen in: Board 2025 · Sample 2025

75. Mention the exact location of Corpus callosum.

Seen in: Sample 2023, 2024

76. Mahesh couldn't see the blurred diagram clearly. (a) Name the defect of the eye Mahesh is suffering from. (b) Where is the image formed in this defect? (c) Which type of lens do his spectacles have?

Seen in: Board 2024 · Sample 2024

77. Give the biological/technical term: A defect in our eye in which some parts of the object are in focus while the other parts are blurred.

Seen in: Board 2024, 2026

78. Mention one function each for - Cerebrum and Cerebellum.

Seen in: Board 2023 · Sample 2024

79. Adjusting the focal length of the eye lens to view objects at different distances is done by: (a) Cornea (b) Iris (c) Ciliary muscles (d) Sclera

Seen in: Board 2024 · Sample 2023

80. Name the following: The ear ossicle which opens into the oval window of Cochlea.

Seen in: Board 2024, 2025

81. Arrange and rewrite the terms in correct logical sequence beginning with the underlined term: Effector, Receptor, Motor neuron, Sensory neuron.

Seen in: Board 2023, 2024

82. Which parts of the ear are responsible for: (a) Static equilibrium? (b) Dynamic equilibrium?

Seen in: Board 2023, 2024

Endocrine System

83. Pallavi, a 30-year-old woman, showed male characteristics such as growth of moustache, beard and chest hair, diagnosed as a hormonal disorder. Mention the biological term for the disorder.

Seen in: Board 2026 · Sample 2027

84. Mention the significance of the following minerals: (a) Iodine in our food. (b) Magnesium for green plants.

Seen in: Board 2024 · Sample 2023, 2025

85. Reena gets emotionally stressed when the school examinations are approaching. Which hormone is responsible for this condition? (a) Adrenaline (b) Thyroxine (c) Insulin (d) Growth hormone

Seen in: Sample 2025, 2026

86. Choose the ODD term out and mention the category to which the remaining three belong: TSH, ADH, ACTH, FSH.

Seen in: Board 2026 · Sample 2027

87. Explain the term hormone.

Seen in: Board 2024 · Sample 2027

88. Differentiate between Diabetes mellitus and Diabetes insipidus with reference to the hormone involved.

Seen in: Board 2024 · Sample 2026

89. Alpha cells of Pancreas secrete: (a) Glycogen (b) Glucose (c) Glucagon (d) Insulin

Seen in: Board 2023 · Sample 2023

The Reproductive System

90. The onset of menstruation in a human female is called: (a) Menopause (b) Menarche (c) Ovulation (d) Oogenesis

Seen in: Sample 2025, 2026

- 91.** Diagram of a human sperm. Fill in the blanks: The head has a cap-like organelle called (a) _____ (Lysosome/Acrosome) which produces an enzyme (b) _____ (Hyaluronidase/Amylase) that dissolves the outer layer of the ovum. The nucleus has (c) _____ (23/46) chromosomes. The middle piece has (d) _____ (Chloroplast/Mitochondria) to provide energy for motility. (e) _____ (Semen/Hymen) is a mixture of sperms and fluids produced by the male accessory glands.



Seen in: Board 2023, 2026 · Sample 2024, 2025

- 92.** State one difference between identical twins and fraternal twins.

Seen in: Sample 2026, 2027

- 93.** A 28-year-old pregnant lady is told the foetus is growing normally and the placenta is functioning well. (a) Mention one function of the placenta. (b) What connects the placenta to the foetus?

Seen in: Board 2023, 2026 · Sample 2024

- 94.** Give the biological/technical term: The canal through which the testes descend into the scrotum just before the birth of a male baby.

Seen in: Board 2025 · Sample 2027

- 95.** Arrange the terms in correct logical sequence beginning with the underlined term: Sperm duct, Seminiferous tubule, Epididymis, Efferent ducts.

Seen in: Board 2023, 2025 · Sample 2023

- 96.** What is the role of the following? (a) Leydig cells (b) Seminiferous tubules.

Seen in: Board 2026 · Sample 2025

- 97.** Choose the odd one out and name the category to which the others belong: Morula, Blastocyst, Oviduct, Foetus.

Seen in: Board 2026 · Sample 2024

- 98.** Differentiate between Menarche and Menopause.

Seen in: Sample 2023, 2024

- 99.** What is the significance of Testes being placed in Scrotal sacs?

Seen in: Board 2023 · Sample 2025

- 100.** Mention any two functions of amniotic fluid.

Seen in: Board 2025 · Sample 2023

Population

101. Mention two reasons for population explosion in India.

Seen in: Board 2023, 2024 · Sample 2023, 2027

102. Explain the term Natality.

Seen in: Board 2024, 2025 · Sample 2026

103. Name the following: The statistical study of human population.

Seen in: Board 2023 · Sample 2023, 2025

104. List any three resources that come under pressure due to rising population.

Seen in: Board 2023 · Sample 2027

105. Mention the surgical methods of contraception in: (a) Men (b) Women.

Seen in: Board 2023 · Sample 2025

106. Give the biological/technical term: The surgical technique for females that can be used to prevent pregnancy.

Seen in: Board 2024, 2026

107. Explain the term 'Population Density' with reference to human beings.

Seen in: Board 2023, 2026

Human Evolution

108. Choose the ODD term out and mention the category to which the remaining three belong: Wisdom tooth, Pinna, Tongue, Vermiform appendix.

Seen in: Board 2025 · Sample 2024, 2025, 2027

109. Mention two characteristic features of Australopithecus.

Seen in: Sample 2026, 2027

110. Industrial melanism is the phenomenon by which the peppered moth: (a) die due to industrial growth. (b) in polluted areas, became darker in colour for better camouflage. (c) became lighter in colour due to natural selection. (d) became resistant to industrial pollution.

Seen in: Board 2024, 2025 · Sample 2026

111. Who proposed the theory of 'Natural Selection'?

Seen in: Board 2026 · Sample 2027

112. What is the scientific name of modern man?

Seen in: Board 2026 · Sample 2024

113. Give any two characteristic features of a Cro-Magnon man.

Seen in: Board 2025 · Sample 2024

Pollution

114. What does Swachh Bharat Abhiyan aim to achieve in India? (a) Increase in deforestation to dump waste. (b) Expansion of landfill areas to accommodate more waste. (c) Improved sanitation and solid waste management. (d) Greater industrial waste production.

Seen in: Board 2024, 2025, 2026 · Sample 2024, 2025, 2026

115. Study the picture (waste bin with gloves, syringes, tablets). (a) Name the category of waste that is being disposed. (b) Give an example of such a waste. (c) Are they hazardous to humans and animals? Give a suitable reason to justify your answer.



(a) Name the category of waste that is being disposed.

(b) Give an example of such a waste.

Seen in: Board 2023, 2025, 2026 · Sample 2024

116. State any two disadvantages of living close to an airport.

Seen in: Board 2024, 2025 · Sample 2025

117. Select and write the two biodegradable wastes from the given list: Styrofoam, Metallic cans, Decaying fruits, Plastic bottles, Newspapers.

Seen in: Board 2024, 2026 · Sample 2024

118. State any two harmful effects of acid rain.

Seen in: Board 2024, 2025 · Sample 2023

119. For the past few years there has been irregular rainfall, leading to crop failures and water shortages. This is a result of: (a) climate change (b) soil erosion (c) earth rotation (d) acid rain

Seen in: Board 2023 · Sample 2027

120. Name the following: The undesirable change in the environment leading to its deterioration.

Seen in: Sample 2023, 2025

121. Choose the odd term out and mention the category to which the remaining three belong: Sulphur dioxide, Oxygen, Carbon monoxide, Nitrogen dioxide.

Seen in: Board 2023 · Sample 2026

122. Give two examples of water pollutants.

Seen in: Board 2024 · Sample 2023

123. Which one of the following is a biodegradable waste? (a) Metal cans (b) E-waste (c) Plastic (d) Flowers

Seen in: Board 2023 · Sample 2023