ICSE · CLASS 10 · BIOLOGY

ICSE Class 10 Biology Guess Paper 2027

Time: 2 hours · Maximum marks: 80 · 36 questions

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Section A

Compulsory. Q1 is fifteen multiple-choice questions (1 mark each, including assertion-reason and statement-set variants); the remaining marks are structured short-answer parts - biological/technical terms, fill-in-the-blank, odd-one-out, match-the-column, reasoning and case-based sub-parts.

Q1. 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. — 1 mark

Q2. Choose the ODD term out and mention the category to which the remaining three belong: Wisdom tooth, Pinna, Tongue, Vermiform appendix. — 1 mark

Q3. The onset of menstruation in a human female is called: (a) Menopause (b) Menarche (c) Ovulation (d) Oogenesis — 1 mark

Q4. 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 — 1 mark

Q5. 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. — 1 mark

Q6. Explain the term Natality. — 1 mark

Q7. 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. — 1 mark

Q8. 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 — 1 mark

Q9. Name the following: The statistical study of human population. — 1 mark

Q10. The Loops of Henle lie in: (a) Renal Cortex (b) Renal Medulla (c) Renal Pelvis (d) Renal Artery — 1 mark

Q11. 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 — 1 mark

Q12. 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. — 1 mark

Q13. The process in which water is lost from the margins of strawberry leaves is: (a) Osmosis (b) Imbibition (c) Diffusion (d) Guttation — 1 mark

Q14. Give the biological/technical term: The ground substance present in a chloroplast. — 1 mark

Q15. The number of autosomes and allosomes present in a human cell: (a) 22 allosomes, 1 autosome (b) 22 pairs of autosomes, 1 pair of allosome (c) 22 autosomes, 1 allosome (d) 22 pairs of allosomes, 1 pair of autosome — 1 mark

Q16. Write the balanced equation for photosynthesis. Name the mineral element essential for the formation of chlorophyll. — 2 marks

Q17. State Mendel's Law of Segregation of gametes. — 2 marks

Q18. Explain how the process (transpiration) will differ on a rainy day. — 2 marks

Q19. Which hormone is responsible for this disorder (adrenal virilism)? Name the gland which secretes this hormone. — 2 marks

Q20. Explain the conclusion drawn from this experiment after the iodine test. — 2 marks

Q21. Mention two reasons for population explosion in India. — 2 marks

Q22. Two well-watered identical plants were placed in brightly lit rooms, one at 15 C and the other at 38 C. The plant in the warmer room showed wilting by the end of the day. (a) Which plant phenomenon resulted in the wilting of the leaves? (b) Mention the factor of the phenomenon that is being tested. — 2 marks

Q23. Which part of the ear equalizes air pressure on either side of the ear drum? Where is this structure located? — 2 marks

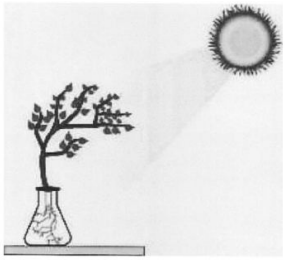
Q24. Study the picture (waste bin with gloves, syringes, tablets). (a) Name the category of waste that is being disposed. (b) Give an example of such a waste. (c) Are they hazardous to humans and animals? Give a suitable reason to justify your answer. — 3 marks



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

(b) Give an example of such a waste.

Q25. 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. 3 marks



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

Q26. Tara's 70-year-old grandmother faces difficulty threading a needle as its eye appears blurred; diagnosed as an age-related disorder. (a) Name the eye disorder she is suffering from. (b) How can the above defect be corrected? (c) Where is the image formed in the above disorder? 3 marks

Section B

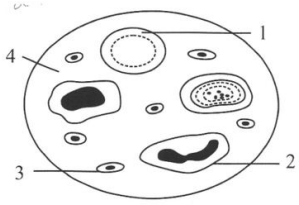
Attempt any four of the six questions; each question is 10 marks made up of case-based reasoning, short-answer, diagram and application sub-parts (1, 2 and 3 mark parts).

Q27. 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. 4 marks



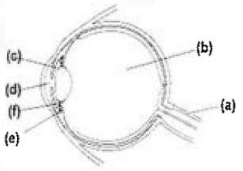
Q28. List three adaptations in plants to reduce this process (transpiration). 4 marks

Q29. 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. 4 marks



(a) Mention one structural difference between 1 and 2

Q30. 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. 4 marks

Cross section of Human Eye	Functions
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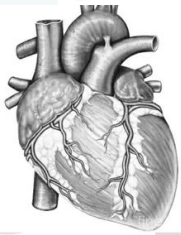
[Analysis]

Q31. Draw a neat, labelled diagram of an animal cell having 4 chromosomes in the metaphase stage. 4 marks

Q32. Draw a neat, labelled diagram of a cross section of an Artery and a Vein. 4 marks

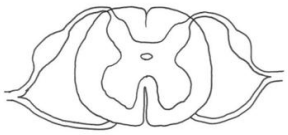
Q33. For the past few years there has been irregular rainfall, leading to crop failures and water shortages. This is a result of: (a) climate change (b) soil erosion (c) earth rotation (d) acid rain 4 marks

Q34. 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. 4 marks



Q35. Copy the diagram (transverse section of spinal cord). (a) Name the structure. (b) Label Gray matter and White matter. 4 marks

(v) Copy the diagram given below. [3]



Q36. 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. 4 marks

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