IGCSE Biology Practice Test 8

60 original multiple-choice questions covering all 21 Cambridge IGCSE Biology 0610 topics. Choose one answer for each question. The full answer key is on the last page — worked explanations for every question are free on the test page at QuaidianPoint.com.

Name: _____ Class: _____ Score: _____ / 60

Characteristics and classification of living organisms

Q1. Which characteristic is shown when a plant grows towards light?

(A) Excretion
(B) Nutrition
(C) Reproduction of new individuals
(D) Sensitivity and movement

Q2. Which organism is a fungus?

(A) Yeast
(B) Amoeba
(C) Bacterium
(D) Fern

Organisation of the organism

Q3. Which level of organisation is formed by a group of similar cells working together?

(A) Organism
(B) Organ
(C) Tissue
(D) System

Q4. Which cell is specialised to carry impulses quickly?

(A) Red blood cell
(B) Neurone
(C) Root hair cell
(D) Palisade cell

Movement into and out of cells

Q5. Which term describes a solution with the same water potential as cell sap?

(A) Isotonic
(B) Hypertonic
(C) Hypotonic
(D) Saturated

Q6. Which surface is best adapted for rapid diffusion in the lungs?

(A) Thick skin
(B) Alveolar wall with capillaries
(C) Stomach lining with many blood vessels
(D) Leaf cuticle

Biological molecules

Q7. Which test is used to detect the presence of starch?

(A) Biuret test
(B) Benedict's test
(C) Emulsion test
(D) Iodine test

Q8. Which molecule is a simple sugar and the main product of photosynthesis?

(A) Starch
(B) Cellulose
(C) Glucose
(D) Glycogen

Q9. Which statement about lipids is correct?

(A) They dissolve easily in water
(B) They are made of amino acids joined in long chains
(C) They store more energy per gram than carbohydrates
(D) They are all solid at room temperature

Enzymes

Q10. Which statement about enzymes is always true?

(A) They are used up in reactions and must be replaced constantly by cells
(B) They only work inside cells
(C) They work at any temperature
(D) They are proteins that speed up reactions without being changed

Q11. What happens to an enzyme when it is denatured?

(A) Its active site changes shape so the substrate no longer fits
(B) It is permanently broken down into amino acids by protease enzymes acting in the stomach
(C) It works faster at any temperature
(D) It becomes a substrate itself

Q12. Lipase breaks down fats into which products?

(A) Amino acids
(B) Fatty acids and glycerol
(C) Glucose only
(D) Maltose and water from digestion

Plant nutrition

Q13. Which equation summarises photosynthesis?

(A) Carbon dioxide plus water to glucose plus oxygen
(B) Glucose plus oxygen to carbon dioxide plus water
(C) Glucose to ethanol plus carbon dioxide
(D) Oxygen plus water to glucose

Q14. Which part of a leaf contains most stomata?

(A) Upper epidermis
(B) Palisade layer
(C) Lower epidermis
(D) Midrib

Q15. Which ion is needed for making proteins in plants?

(A) Magnesium ions
(B) Nitrate ions
(C) Calcium ions only
(D) Potassium ions only

Human nutrition

Q16. Which food group is the main source of energy in a balanced diet?

(A) Proteins for growth
(B) Vitamins
(C) Minerals
(D) Carbohydrates

Q17. Which vitamin is made in the skin by sunlight and helps calcium absorption?

(A) Vitamin A
(B) Vitamin B
(C) Vitamin D
(D) Vitamin C

Q18. In which part of the gut does chemical digestion of proteins begin?

(A) Mouth where chewing occurs
(B) Ileum
(C) Colon
(D) Stomach

Transport in plants

Q19. Which cells absorb most water from the soil?

(A) Root hair cells
(B) Guard cells
(C) Palisade cells
(D) Sieve tube cells

Q20. What drives the upward movement of water in xylem vessels in a tall tree?

(A) Root pressure alone
(B) Transpiration pull from the leaves
(C) Active transport by the phloem
(D) Diffusion through the stomata only

Q21. Which environmental change would reduce water uptake by a cut shoot in a potometer?

(A) Brighter light
(B) Stronger wind
(C) Higher temperature
(D) Higher humidity

Transport in animals

Q22. What is the function of red blood cells?

(A) They carry oxygen around the body
(B) They defend the body by engulfing pathogens and producing antibodies against infection
(C) They help blood to clot
(D) They transport hormones

Q23. Which blood vessel has the thinnest walls and allows exchange with tissues?

(A) Artery with thick walls
(B) Vein
(C) Capillary
(D) Aorta

Q24. In a double circulation, how many times does blood pass through the heart in one complete circuit?

(A) Once
(B) Twice
(C) Three times
(D) Four times

Diseases and immunity

Q25. Which organism causes malaria?

(A) A bacterium spread by mosquitoes
(B) A virus
(C) A protoctist called Plasmodium
(D) A fungus

Q26. Which method is the most effective way to prevent cholera spreading in a community?

(A) Providing clean drinking water and sanitation
(B) Taking antibiotics every day to prevent infection
(C) Wearing a face mask
(D) Avoiding all cooked food

Q27. Which cells produce antibodies?

(A) Red blood cells, which are made in the bone marrow and carry oxygen around the body
(B) Platelets
(C) Phagocytes
(D) Lymphocytes

Gas exchange in humans

Q28. Which gas diffuses from blood into alveolar air?

(A) Oxygen
(B) Carbon dioxide
(C) Nitrogen
(D) Water vapour only

Q29. Which feature increases the rate of gas exchange in alveoli?

(A) Thick walls with a small surface area and a poor blood supply to the lungs
(B) A single large air sac
(C) Dry walls with no blood supply
(D) A large surface area with a rich blood supply and thin walls

Q30. A piece of dry blue cobalt chloride paper turns pink when held in exhaled air. What does this show?

(A) Oxygen, which is taken in during inhalation and used in aerobic respiration
(B) Nitrogen
(C) Water vapour
(D) Carbon dioxide only

Respiration

Q31. Where in the cell does anaerobic respiration take place?

(A) Cytoplasm
(B) Mitochondrion, the organelle where most aerobic respiration takes place
(C) Ribosome
(D) Nucleus

Q32. During anaerobic respiration in humans, glucose is broken down to which product?

(A) Ethanol
(B) Lactic acid
(C) Carbon dioxide only
(D) Oxygen

Q33. Which experiment would show that germinating seeds respire?

(A) Testing leaves for starch
(B) Measuring oxygen uptake only
(C) Showing they release carbon dioxide and heat
(D) Weighing seeds before and after

Excretion in humans

Q34. Which substance is removed from blood by the kidneys and excreted in urine?

(A) Oxygen
(B) Platelets
(C) Plasma proteins
(D) Urea

Q35. What happens to urea after it is made in the liver?

(A) It is carried in blood to the kidneys and excreted in urine
(B) It is stored in the bladder until it is broken down by bacteria in the large intestine
(C) It is broken down in tubules
(D) It leaves in faeces

Q36. Which condition would cause the kidney to produce a small volume of concentrated urine?

(A) Drinking a large volume of water
(B) Losing water through sweating on a hot day
(C) Eating a meal low in salt
(D) Sleeping for a short time

Coordination and response

Q37. Which structure detects light in the eye?

(A) Lens
(B) Retina
(C) Cornea
(D) Optic nerve only

Q38. Which hormone controls blood glucose after a meal high in carbohydrate?

(A) Adrenaline
(B) Thyroxine
(C) Glucagon
(D) Insulin

Q39. A shoot grows towards light. Which hormone causes this response?

(A) Auxin
(B) Insulin
(C) Adrenaline
(D) Ethene

Drugs

Q40. What happens to reaction time after a person drinks alcohol?

(A) It becomes much faster
(B) It stays exactly the same
(C) It becomes slower
(D) It only changes the next day

Q41. Long-term smoking is most strongly linked to which disease?

(A) Lung cancer
(B) Diabetes
(C) Malaria
(D) Scurvy

Q42. Which of these drugs is classified as a stimulant?

(A) Alcohol, a depressant that slows reactions and impairs judgement
(B) Heroin
(C) Solvents
(D) Nicotine

Reproduction

Q43. Which structure in the female reproductive system releases eggs?

(A) Uterus, the muscular organ where the embryo implants and develops during pregnancy
(B) Ovary
(C) Urethra
(D) Cervix

Q44. In flowering plants, where are the female gametes found?

(A) Anther
(B) Pollen grain
(C) Ovule inside the ovary
(D) Petal

Q45. Which statement about sexual reproduction is correct?

(A) Offspring are genetically different from both parents
(B) Only one parent is involved
(C) No gametes are produced
(D) Offspring are identical clones

Inheritance

Q46. Which genotype is homozygous recessive for gene A?

(A) AA
(B) aa
(C) Aa
(D) A

Q47. Which process produces haploid gametes?

(A) Mitosis
(B) Binary fission
(C) Budding
(D) Meiosis

Q48. A child inherits a recessive allele for a condition from both parents, who do not show it. What can be said about the parents?

(A) Both are homozygous dominant
(B) Both are homozygous recessive
(C) Both are heterozygous carriers
(D) One parent has no allele

Variation and selection

Q49. Which factor causes variation that cannot be inherited?

(A) Mutation in a gamete
(B) A new allele combination
(C) Crossing over in meiosis
(D) Differences in diet during growth

Q50. Antibiotic resistance in bacteria is an example of which process?

(A) Artificial selection by farmers
(B) Natural selection
(C) Asexual reproduction
(D) Genetic engineering

Q51. Which statement about mutation is correct?

(A) Mutations always improve survival
(B) Mutations only occur in animals
(C) Mutations are random changes in genes or chromosomes
(D) Mutations are always caused by humans

Organisms and their environment

Q52. Which organisms break down dead material and return nutrients to the soil?

(A) Decomposers
(B) Producers
(C) Herbivores
(D) Top carnivores

Q53. In a pyramid of numbers, why can a single tree support many herbivores?

(A) The tree is a carnivore
(B) One large producer provides enough food for many consumers
(C) Herbivores do not eat trees
(D) Trees reproduce quickly

Q54. Which term describes all the organisms of one species living in an area at the same time?

(A) Population
(B) Ecosystem
(C) Habitat
(D) Community

Human influences on ecosystems

Q55. Which human activity increases carbon dioxide in the atmosphere most directly?

(A) Planting trees
(B) Recycling glass
(C) Using wind turbines
(D) Burning coal in power stations

Q56. Which consequence of deforestation affects the water cycle?

(A) More trees absorb rain
(B) Soil becomes more stable
(C) Less transpiration and more soil erosion and flooding
(D) Rivers become deeper

Q57. Which measure helps protect endangered species?

(A) Destroying their habitat for farming
(B) Creating nature reserves and breeding programmes
(C) Hunting them for trade
(D) Introducing new predators

Biotechnology and genetic modification

Q58. Which process uses yeast to make bread rise?

(A) Photosynthesis
(B) Digestion
(C) Genetic modification
(D) Anaerobic respiration producing carbon dioxide

Q59. What is the role of ligase in genetic engineering?

(A) It joins DNA fragments together
(B) It cuts DNA open
(C) It copies genes in a test tube
(D) It destroys plasmids

Q60. Which crop trait can be added by genetic modification?

(A) Larger leaves only
(B) Slower growth
(C) Resistance to herbicide
(D) Loss of seeds

Answer Key

Q1: D	Q11: A	Q21: D	Q31: A	Q41: A	Q51: C
Q2: A	Q12: B	Q22: A	Q32: B	Q42: D	Q52: A
Q3: C	Q13: A	Q23: C	Q33: C	Q43: B	Q53: B
Q4: B	Q14: C	Q24: B	Q34: D	Q44: C	Q54: A
Q5: A	Q15: B	Q25: C	Q35: A	Q45: A	Q55: D
Q6: B	Q16: D	Q26: A	Q36: B	Q46: B	Q56: C
Q7: D	Q17: C	Q27: D	Q37: B	Q47: D	Q57: B
Q8: C	Q18: D	Q28: B	Q38: D	Q48: C	Q58: D
Q9: C	Q19: A	Q29: D	Q39: A	Q49: D	Q59: A
Q10: D	Q20: B	Q30: C	Q40: C	Q50: B	Q60: C

Worked explanations for all 60 questions: quaidianpoint.com/igcse-biology-practice-test-8/