IGCSE Biology Practice Test 5

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 life process removes waste products made by metabolism?

(A) Nutrition
(B) Growth
(C) Sensitivity
(D) Excretion

Q2. Which group of vertebrates lays eggs and has scales and a three-chambered heart?

(A) Fish
(B) Amphibians
(C) Reptiles
(D) Birds

Q3. Which fungus is used to make bread rise?

(A) Yeast
(B) Amoeba, a single-celled protoctist that moves by changing its shape
(C) Mould on bread
(D) Mushroom

Organisation of the organism

Q4. Which level of organisation is the stomach?

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

Q5. Which structure is present in plant cells and gives support?

(A) Cell wall
(B) Nucleus
(C) Ribosome
(D) Mitochondrion

Q6. Which organelle makes proteins?

(A) Vacuole
(B) Chloroplast
(C) Cell membrane
(D) Ribosome

Movement into and out of cells

Q7. Oxygen diffuses from air into a cell. Which condition speeds this up?

(A) A smaller surface area for diffusion
(B) A steeper oxygen gradient
(C) A thicker membrane
(D) A lower temperature

Q8. Which process moves mineral ions from soil into root hair cells when the soil concentration is lower?

(A) Diffusion, which moves particles from a higher concentration to a lower concentration
(B) Osmosis
(C) Active transport
(D) Transpiration

Q9. Why do plant cells not burst in pure water?

(A) They have no vacuole
(B) The cell wall resists turgor pressure
(C) They pump water out actively
(D) They stop osmosis completely

Biological molecules

Q10. Which food molecule is tested with Benedict's solution?

(A) Starch
(B) Protein
(C) Reducing sugar
(D) Fat

Q11. Which element is found in proteins but not in carbohydrates?

(A) Carbon
(B) Hydrogen
(C) Oxygen
(D) Nitrogen

Q12. Which carbohydrate is used for energy storage in animals?

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

Enzymes

Q13. Which enzyme digests starch to maltose?

(A) Protease
(B) Amylase
(C) Lipase
(D) Maltase

Q14. At very low temperatures, enzyme activity is low because:

(A) Enzymes are denatured by cold
(B) Substrates are destroyed
(C) Water freezes inside enzymes
(D) Collisions are too slow and infrequent

Q15. Which pH is closest to the optimum for pepsin?

(A) pH 2
(B) pH 7
(C) pH 9
(D) pH 12

Plant nutrition

Q16. Which mineral is needed to make proteins in plants?

(A) Magnesium
(B) Iron
(C) Nitrate
(D) Potassium

Q17. What is the main product of the light-independent stage of photosynthesis?

(A) Glucose
(B) Oxygen
(C) Water
(D) Carbon dioxide

Q18. Which structure allows carbon dioxide to enter a leaf?

(A) Vein
(B) Cuticle
(C) Stoma
(D) Palisade cell

Human nutrition

Q19. Which part of the digestive system absorbs most nutrients?

(A) Mouth
(B) Stomach
(C) Oesophagus
(D) Ileum

Q20. What does bile do to fats?

(A) Digests them to glycerol
(B) Emulsifies them into small droplets
(C) Absorbs them into blood
(D) Stores them in the liver

Q21. Which nutrient is the main source of energy in a balanced diet?

(A) Vitamins needed in small amounts
(B) Minerals
(C) Carbohydrates
(D) Water

Transport in plants

Q22. Water moves up a plant mainly because of:

(A) Active transport in leaves using energy
(B) Transpiration pull and cohesion
(C) Root pressure alone
(D) Gravity pulling sap down

Q23. Which cells transport sugars in a plant?

(A) Sieve tube elements in phloem
(B) Vessel elements in xylem carrying water
(C) Guard cells in epidermis
(D) Mesophyll cells only

Q24. A plant wilts on a hot day even though soil is moist. Why?

(A) Roots stop absorbing water
(B) Photosynthesis stops completely
(C) Stomata open wider than ever
(D) Water loss exceeds water uptake

Transport in animals

Q25. Which chamber of the heart receives oxygenated blood from the lungs?

(A) Right atrium
(B) Right ventricle
(C) Left ventricle
(D) Left atrium

Q26. What is the function of haemoglobin?

(A) Transporting oxygen in red blood cells
(B) Clotting blood at wounds
(C) Fighting infection in plasma
(D) Carrying urea to kidneys

Q27. Which vessel carries deoxygenated blood to the lungs?

(A) Aorta
(B) Vena cava
(C) Pulmonary artery
(D) Pulmonary vein returning to the heart

Diseases and immunity

Q28. Which statement about antibodies is correct?

(A) They are made by red blood cells
(B) They bind to specific antigens
(C) They kill all microbes on contact
(D) They are passed only by injection

Q29. Why does a second infection with the same pathogen cause milder illness?

(A) The pathogen becomes weaker over time
(B) The body temperature rises faster
(C) Memory cells give a rapid antibody response
(D) Skin becomes thicker after illness

Q30. Which disease is caused by a bacterium spread in droplets from coughs?

(A) Malaria
(B) Tuberculosis
(C) AIDS
(D) Athlete's foot

Gas exchange in humans

Q31. Which gas diffuses from blood into alveoli?

(A) Oxygen
(B) Nitrogen from the blood plasma
(C) Argon
(D) Carbon dioxide

Q32. What causes air to enter the lungs?

(A) Pressure in the lungs falls below atmospheric pressure
(B) Pressure in the lungs rises above atmospheric pressure
(C) The trachea actively sucks air in
(D) The alveoli contract strongly

Q33. Which muscles are used in forced exhalation?

(A) Internal intercostal muscles and abdominal muscles
(B) Diaphragm only
(C) External intercostals only
(D) Heart muscle

Respiration

Q34. Which process releases energy for active transport?

(A) Photosynthesis
(B) Digestion
(C) Diffusion
(D) Respiration

Q35. What is produced by anaerobic respiration in yeast?

(A) Lactic acid and water from muscle cells
(B) Ethanol and carbon dioxide
(C) Oxygen and glucose
(D) Urea and water

Q36. Which word describes respiration without oxygen?

(A) Aerobic
(B) Photosynthetic
(C) Anaerobic
(D) Excretory

Excretion in humans

Q37. Which part of the nephron filters the blood?

(A) Glomerulus
(B) Loop of Henle
(C) Collecting duct
(D) Bladder wall

Q38. Which substance is excreted in sweat?

(A) Glucose
(B) Protein
(C) Urea and salts
(D) Bile

Coordination and response

Q39. Which neurone connects sensory and motor neurones in the CNS?

(A) Motor neurone
(B) Relay neurone
(C) Sensory neurone
(D) Effector cell

Q40. Which hormone controls blood sugar by promoting storage as glycogen?

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

Drugs

Q41. Which effect is linked to long-term alcohol misuse?

(A) Stronger immune response
(B) Improved liver function
(C) Sharper coordination
(D) Liver damage

Q42. What is drug addiction?

(A) Occasional use with no harm
(B) A strong dependence that is hard to stop despite harm
(C) Taking medicines as prescribed
(D) Avoiding all drugs completely

Reproduction

Q43. Where does fertilisation occur in humans?

(A) Oviduct
(B) Uterus where the embryo implants
(C) Ovary
(D) Cervix

Q44. Which process produces haploid cells in flowering plants?

(A) Mitosis in roots
(B) Growth of pollen tubes
(C) Meiosis in anthers and ovaries
(D) Germination of seeds

Q45. Which is an advantage of asexual reproduction for a farmer?

(A) Crops vary widely each year
(B) Desirable traits are preserved exactly
(C) New gene combinations appear
(D) Seeds are always produced

Inheritance

Q46. What is meant by a recessive allele?

(A) An allele that only shows its effect when two copies are present
(B) An allele that is expressed even when only one copy is inherited from a parent
(C) A whole chromosome
(D) A protein molecule

Q47. In a monohybrid cross, what does the 1:2:1 ratio describe?

(A) Phenotype ratio only
(B) Chromosome number ratio
(C) Genotype ratio in Aa x Aa offspring
(D) Sex ratio in offspring

Q48. Which condition is caused by an extra chromosome 21?

(A) Sickle cell anaemia
(B) Cystic fibrosis
(C) Haemophilia
(D) Down's syndrome

Variation and selection

Q49. Which factor causes variation within a species?

(A) Identical genes only
(B) Cloning only
(C) Mutation and sexual reproduction
(D) Asexual reproduction only

Q50. Which statement about continuous variation is correct?

(A) It is controlled by genes only
(B) It shows a range of values with no clear groups
(C) It is caused by mutation only
(D) It always gives two distinct phenotypes

Q51. Why do some bacteria survive antibiotic treatment?

(A) They hide from the drug
(B) They grow larger than normal
(C) They stop reproducing entirely
(D) They carry resistance alleles selected by the drug

Organisms and their environment

Q52. Which organism is a consumer in a food chain?

(A) A rabbit feeding on grass
(B) A green plant that makes its own food by photosynthesis using light energy
(C) A fox
(D) A fungus

Q53. What is a population?

(A) All the organisms of every species living together in one particular habitat
(B) All organisms of one species in a habitat
(C) A population count method using quadrats
(D) A stage of decomposition

Q54. Why does energy decrease along a food chain?

(A) Energy is lost in respiration, excretion and movement
(B) Producers make less energy over time
(C) Consumers eat too much food
(D) Decomposers store all the energy

Human influences on ecosystems

Q55. Which human activity causes eutrophication?

(A) Planting hedgerows
(B) Recycling glass
(C) Excess fertiliser running into lakes
(D) Creating nature reserves

Q56. Which gas contributes most to the greenhouse effect from burning coal?

(A) Oxygen
(B) Nitrogen from the atmosphere
(C) Hydrogen
(D) Carbon dioxide

Q57. What is sustainable development?

(A) Using resources as fast as possible
(B) Banning all farming and fishing
(C) Replacing forests with cities
(D) Meeting present needs without harming future generations

Biotechnology and genetic modification

Q58. Why is penicillin produced using Penicillium fungus?

(A) It grows only in humans
(B) It kills all bacteria instantly
(C) It naturally produces the antibiotic compound
(D) It needs no nutrients to grow

Q59. Which is an example of biotechnology in food production?

(A) Using yeast to make bread rise
(B) Grinding wheat into flour
(C) Washing vegetables before sale
(D) Freezing leftover meals

Q60. What is a genetically modified organism?

(A) An organism bred only by natural selection
(B) An organism whose genetic material has been altered
(C) An organism grown without any genes
(D) An organism cloned from a single cell only

Answer Key

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

Worked explanations for all 60 questions: quaidianpoint.com/igcse-biology-practice-test-5/