IGCSE Biology Practice Test 19

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 of metabolism from an organism?

(A) Nutrition in this context, when the other conditions are taken into account
(B) Growth
(C) Movement
(D) Excretion

Q2. Which organism belongs to the fungus kingdom?

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

Q3. Which feature is used to place an animal in the vertebrate group?

(A) Jointed legs
(B) A shell
(C) A backbone
(D) Six legs

Organisation of the organism

Q4. Which level is formed when different tissues work together?

(A) Organ
(B) Cell
(C) Organism
(D) Population

Q5. Which cell structure contains the genetic material in an animal cell?

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

Q6. Which specialised plant cell has no nucleus and forms a tube for water transport?

(A) Guard cell
(B) Palisade cell
(C) Xylem vessel element
(D) Root hair cell in this context, when the other conditions are taken into account

Movement into and out of cells

Q7. Which process moves oxygen from the alveoli into the blood?

(A) Active transport
(B) Diffusion
(C) Osmosis
(D) Phagocytosis

Q8. Which factor reduces the rate of osmosis into a cell?

(A) A larger surface area in this context, when the other conditions are taken into account
(B) A higher temperature
(C) A thinner membrane
(D) A smaller water potential gradient

Q9. Which statement about partially permeable membranes is correct?

(A) They allow all particles through
(B) They block all particles
(C) They allow some particles through but not others
(D) They only allow large particles through in this context, when the other conditions are taken into account

Biological molecules

Q10. Which molecule is the monomer of a protein?

(A) Glucose
(B) Amino acid
(C) Fatty acid in this context, when the other conditions are taken into account
(D) Glycerol

Q11. Which food gives a blue-black colour with iodine solution?

(A) Starch
(B) Glucose
(C) Protein
(D) Fat

Q12. Which statement about water is important for living organisms?

(A) It is a poor solvent
(B) It has a low specific heat capacity in this context, when the other conditions are taken into account
(C) It cannot carry dissolved gases
(D) It is a good solvent for many substances

Enzymes

Q13. Which enzyme in the small intestine breaks down fats into fatty acids and glycerol?

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

Q14. Which condition denatures pepsin most quickly?

(A) Strongly alkaline conditions
(B) Acidic conditions around pH 2
(C) A temperature of 37 degrees Celsius
(D) A high substrate concentration

Q15. Which graph shape shows enzyme activity against temperature up to the optimum and beyond?

(A) A straight line rising forever in this context, when the other conditions are taken into account
(B) A rise to a peak, then a sharp fall
(C) A flat line with no change
(D) A fall, then a rise

Plant nutrition

Q16. Which plant shows magnesium deficiency most clearly?

(A) A plant with thick stems
(B) A plant with extra flowers
(C) A plant with yellow leaves between green veins
(D) A plant with deep roots only in this context, when the other conditions are taken into account

Q17. Which experiment uses a variegated leaf to show that photosynthesis needs chlorophyll?

(A) Covering a leaf with foil
(B) Testing green and white areas separately for starch
(C) Placing a plant in darkness in this context, when the other conditions are taken into account
(D) Adding fertiliser to soil

Q18. Which limiting factor is most likely to restrict photosynthesis in a glasshouse at night?

(A) Light intensity
(B) Carbon dioxide concentration
(C) Water supply
(D) Temperature only

Human nutrition

Q19. Which enzyme digests starch in the mouth?

(A) Pepsin, an enzyme that works in the acid conditions of the stomach
(B) Lipase
(C) Amylase
(D) Trypsin

Q20. Which function does hydrochloric acid perform in the stomach?

(A) It emulsifies fats
(B) It absorbs amino acids in this context, when the other conditions are taken into account
(C) It neutralises bile
(D) It kills bacteria and provides the optimum pH for pepsin

Q21. Which diet-related problem is caused by too little fibre in the diet?

(A) Scurvy
(B) Anaemia in this context, when the other conditions are taken into account
(C) Constipation
(D) Rickets

Transport in plants

Q22. Which environmental condition gives the lowest rate of transpiration?

(A) Bright light
(B) Windy conditions in this context, when the other conditions are taken into account
(C) High temperature
(D) Humid, still air

Q23. Which tissue is found on the outside of a leaf and reduces water loss?

(A) Mesophyll in this context, when the other conditions are taken into account
(B) Epidermis with cuticle
(C) Phloem
(D) Cambium

Q24. In which direction does translocation move sucrose in spring when buds are growing?

(A) From storage organs to growing buds
(B) From buds to storage organs only in this context, when the other conditions are taken into account
(C) From roots to leaves only
(D) From flowers to roots only

Transport in animals

Q25. Which chamber receives deoxygenated blood from the body?

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

Q26. Which valve prevents backflow of blood from the right ventricle to the right atrium?

(A) Bicuspid valve, which separates the left atrium from the left ventricle
(B) Aortic valve
(C) Pulmonary valve
(D) Tricuspid valve

Q27. Which blood cell type engulfs pathogens?

(A) Red blood cell
(B) Platelet
(C) Phagocyte
(D) Plasma cell only

Diseases and immunity

Q28. Which disease is caused by a virus spread in droplets from coughs and sneezes?

(A) Cholera
(B) Influenza
(C) Tuberculosis
(D) Malaria

Q29. Which cells provide long-term protection after a first infection?

(A) Platelets
(B) Memory cells
(C) Red blood cells
(D) Guard cells

Q30. Which hygiene measure best reduces transmission of diarrhoeal diseases?

(A) Sharing towels
(B) Eating unwashed food
(C) Washing hands and treating drinking water
(D) Storing raw and cooked food together in this context, when the other conditions are taken into account

Gas exchange in humans

Q31. Which feature keeps the trachea open during breathing?

(A) Smooth muscle only in this context, when the other conditions are taken into account
(B) Mucus lining
(C) Thin walls
(D) Rings of cartilage

Q32. Which process moves air into the lungs during inhalation?

(A) Chest volume increases, so air pressure inside falls below outside pressure
(B) Chest volume decreases, forcing air in
(C) Diaphragm relaxes and pushes air in
(D) Ribs move down and in

Q33. Which gas diffuses from alveolar air into capillary blood?

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

Respiration

Q34. Which statement about respiration is correct?

(A) It only occurs in animals
(B) It stores energy in glucose
(C) It releases energy from glucose in all living cells
(D) It only occurs in daylight

Q35. Which test shows that air breathed out contains carbon dioxide?

(A) Limewater turns milky
(B) Iodine turns blue-black
(C) Benedict's turns brick-red
(D) Biuret turns purple

Q36. Which activity relies most on anaerobic respiration in muscle?

(A) Slow walking
(B) A short all-out sprint
(C) Sleeping
(D) Gentle stretching

Excretion in humans

Q37. Which structure carries urine from the kidney to the bladder?

(A) Ureter
(B) Urethra
(C) Renal artery
(D) Collecting duct

Q38. Which substance is reabsorbed from the kidney tubule back into the blood?

(A) Urea only
(B) Glucose and water
(C) Carbon dioxide
(D) Excess urea only

Coordination and response

Q39. Which action is an example of a reflex?

(A) Choosing a book to read
(B) Solving a puzzle
(C) Writing an essay
(D) Blinking when an object approaches the eye

Q40. Which hormone controls the menstrual cycle together with oestrogen?

(A) Insulin
(B) Adrenaline
(C) Progesterone
(D) ADH

Drugs

Q41. Which statement about heroin is correct?

(A) It is a legal medicine for all uses
(B) It improves lung capacity
(C) It is a powerful depressant that can cause overdose
(D) It has no withdrawal effects

Q42. Which effect does nicotine have on blood vessels?

(A) It narrows small arteries, raising blood pressure
(B) It widens all vessels permanently
(C) It removes cholesterol from blood
(D) It increases oxygen carriage

Reproduction

Q43. Which type of reproduction involves two parents and fusion of gametes?

(A) Budding
(B) Sexual reproduction
(C) Binary fission
(D) Vegetative propagation

Q44. Which structure protects and nourishes a developing fetus in mammals?

(A) Ovary
(B) Oviduct
(C) Cervix alone
(D) Placenta and uterus

Q45. Which advantage does seed dispersal give a plant?

(A) It prevents photosynthesis
(B) It reduces competition between parent and offspring
(C) It stops pollination
(D) It increases self-fertilisation

Inheritance

Q46. Which term describes an organism with two identical alleles for a gene?

(A) Homozygous
(B) Heterozygous
(C) Dominant
(D) Recessive

Q47. What is meant by the phenotype of an organism?

(A) The alleles it has for a particular characteristic, inherited from both parents
(B) Pyramid of numbers
(C) Carbon cycle diagram
(D) The observable characteristics of an organism

Q48. Which process produces genetically different gametes?

(A) Mitosis
(B) Cloning
(C) Meiosis with random assortment
(D) Binary fission

Variation and selection

Q49. Which example of variation is mainly environmental?

(A) Eye colour
(B) Blood group
(C) Natural hair colour
(D) A scar gained from an accident

Q50. What is the source of new alleles in a population?

(A) Selective breeding by humans choosing parents with desired characteristics over generations
(B) It requires no variation
(C) Mutation of DNA
(D) It makes every individual identical

Q51. Which risk can arise from selective breeding for a single trait?

(A) Increased genetic diversity
(B) Reduced genetic diversity and inbreeding problems
(C) Faster mutation rates
(D) Loss of all variation in one generation

Organisms and their environment

Q52. Which pyramid shows the number of organisms at each trophic level?

(A) Pyramid of numbers
(B) Pyramid of energy only
(C) Pyramid of biomass only
(D) Pyramid of carbon

Q53. Which process releases nutrients from dead organisms back into the soil?

(A) Photosynthesis
(B) Decomposition
(C) Transpiration
(D) Pollination

Q54. Which abiotic factor most affects where a plant species can grow?

(A) Competition
(B) Predation
(C) Disease
(D) Light intensity and soil conditions

Human influences on ecosystems

Q55. Which consequence of global warming threatens low-lying coastal communities?

(A) Rising sea levels
(B) Colder winters everywhere
(C) Less rainfall everywhere
(D) Thicker ice caps

Q56. Which pollutant causes acid rain when released from burning fossil fuels?

(A) Carbon dioxide only
(B) Methane
(C) Sulfur dioxide
(D) Oxygen

Q57. Which action reduces a person's carbon footprint?

(A) Flying more often
(B) Leaving lights on all day
(C) Using public transport and insulating the home
(D) Burning more coal for heating

Biotechnology and genetic modification

Q58. Which organism is commonly used to produce penicillin in a fermenter?

(A) A fungus
(B) A virus
(C) A green plant
(D) An animal cell

Q59. Which step is needed before a gene can be inserted into bacteria?

(A) Heating the bacteria to boiling
(B) Removing all plasmids permanently
(C) Growing bacteria without nutrients
(D) Cutting the gene and plasmid with the same restriction enzyme

Q60. Which benefit of genetic modification is relevant to vitamin A deficiency?

(A) Crops that grow without water
(B) Golden rice with added beta-carotene
(C) Crops that need no sunlight
(D) Rice that produces insulin

Answer Key

Q1: D	Q11: A	Q21: C	Q31: D	Q41: C	Q51: B
Q2: B	Q12: D	Q22: D	Q32: A	Q42: A	Q52: A
Q3: C	Q13: D	Q23: B	Q33: D	Q43: B	Q53: B
Q4: A	Q14: A	Q24: A	Q34: C	Q44: D	Q54: D
Q5: A	Q15: B	Q25: A	Q35: A	Q45: B	Q55: A
Q6: C	Q16: C	Q26: D	Q36: B	Q46: A	Q56: C

Q7: B	Q17: B	Q27: C	Q37: A	Q47: D	Q57: C
Q8: D	Q18: A	Q28: B	Q38: B	Q48: C	Q58: A
Q9: C	Q19: C	Q29: B	Q39: D	Q49: D	Q59: D
Q10: B	Q20: D	Q30: C	Q40: C	Q50: C	Q60: B

Worked explanations for all 60 questions: quaidianpoint.com/igcse-biology-practice-test-19/