

ZOOLOGY MASTER QUIZ

Volume I — Solved Answer Key

100 QUESTIONS

3 DIFFICULTY LEVELS

ANSWERS HIGHLIGHTED

Topics: Cell Biology | Anatomy | Genetics | Marine Life | Ecology | Herpetology | Ornithology | Ichthyology | Man

✓ Green highlighted row = Correct Answer

● Easy

● Medium

● Hard

■ EASY — Questions 1–35

Q001

EASY

Cell Biology

What is the basic structural and functional unit of life?

A Organ

B Tissue

C Cell

D Organism



Q002 **EASY** Mammalogy

Which of the following is the largest animal on Earth?

- A African Elephant
- B Blue Whale** ✓
- C Giant Squid
- D Giraffe

Q003 **EASY** Ecology

What do you call animals that eat only plants?

- A Carnivores
- B Omnivores
- C Herbivores** ✓
- D Detritivores

Q004 **EASY** Entomology

How many legs does an insect have?

- A 4
- B 6** ✓
- C 8
- D 10

Q005

EASY

Anatomy

What organ pumps blood throughout the body of a vertebrate?

- A Liver
- B Lungs
- C Kidney
- D Heart**



Q006

EASY

Physiology

Which gas do animals inhale and plants produce during photosynthesis?

- A Carbon Dioxide
- B Nitrogen
- C Oxygen**
- D Hydrogen



Q007

EASY

Ornithology

What is the study of birds called?

- A Herpetology
- B Ornithology**
- C Ichthyology
- D Entomology



Q008 **EASY** Mammalogy**Which of these animals is a mammal?**

A Shark

B Crocodile

C Bat ✓

D Iguana

Q009 **EASY** Ecology**What is the term for animals that are active at night?**

A Diurnal

B Crepuscular

C Nocturnal ✓

D Torpid

Q010 **EASY** Anatomy**How many chambers does a human heart have?**

A 2

B 3

C 4 ✓

D 5

Q011 **EASY** Entomology

What substance makes up the exoskeleton of insects?

- A Collagen
- B Chitin** ✓
- C Keratin
- D Cellulose

Q012 **EASY** Herpetology

Which of these is a cold-blooded animal?

- A Dog
- B Eagle
- C Snake** ✓
- D Whale

Q013 **EASY** Ecology

What do we call animals that feed on both plants and animals?

- A Herbivores
- B Carnivores
- C Omnivores** ✓
- D Parasites

Q014 EASY Anatomy**What is the largest organ of the human body?**

A Liver

B Skin ✓

C Lung

D Brain

Q015 EASY Anatomy**What type of skeleton do vertebrates have?**

A Exoskeleton

B Hydrostatic skeleton

C Endoskeleton ✓

D No skeleton

Q016 EASY Mammalogy**Which animal is known as the 'King of the Jungle'?**

A Tiger

B Leopard

C Lion ✓

D Cheetah

Q017

EASY

Herpetology

Tadpoles are the larval stage of which animal?

A Salamander

B Fish

C Frog ✓

D Newt

Q018

EASY

Entomology

How many legs does a spider have?

A 6

B 8 ✓

C 10

D 12

Q019

EASY

Cell Biology

Which part of the cell contains genetic information (DNA)?

A Mitochondria

B Ribosome

C Nucleus ✓

D Vacuole

Q020 **EASY** Marine Life**What do whales breathe through?**

- A Gills
- B Skin
- C Blowholes** ✓
- D Mouth only

Q021 **EASY** Entomology**What is the process by which a caterpillar becomes a butterfly?**

- A Metamorphosis** ✓
- B Mitosis
- C Germination
- D Fermentation

Q022 **EASY** Zoology**Which of the following is an invertebrate?**

- A Frog
- B Earthworm** ✓
- C Pigeon
- D Salmon

Q023 **EASY** Mammalogy**What is the fastest land animal?**

- A Lion
- B Horse
- C Cheetah** ✓
- D Greyhound

Q024 **EASY** Ichthyology**What do we call a group of fish?**

- A Pack
- B School** ✓
- C Colony
- D Herd

Q025 **EASY** Herpetology**What is the study of reptiles and amphibians called?**

- A Ichthyology
- B Herpetology** ✓
- C Ornithology
- D Mammalogy

Q026 **EASY** Entomology**Which animal produces silk?**

A Spider (web)

B Silkworm ✓

C Bee

D Beetle

Q027 **EASY** Physiology**What is the process by which an organism uses oxygen to break down glucose for energy?**

A Photosynthesis

B Fermentation

C Cellular Respiration ✓

D Transpiration

Q028 **EASY** Anatomy**Which type of blood vessel carries blood away from the heart?**

A Veins

B Capillaries

C Arteries ✓

D Lymphatics

Q029 **EASY** Mammalogy**What is the scientific name for modern humans?**

- A Homo erectus
- B Homo neanderthalensis
- C Homo sapiens** ✓
- D Pan troglodytes

Q030 **EASY** Ichthyology**What structure do fish use to breathe underwater?**

- A Lungs
- B Nostrils
- C Gills** ✓
- D Skin pores

Q031 **EASY** Mammalogy**Which mammal can fly?**

- A Flying squirrel
- B Bat** ✓
- C Flying fish
- D Flying lemur

Q032 **EASY** Entomology**What is the lifespan of an adult mayfly?**

A 1 week

B 1 month

C 1 day ✓

D 1 year

Q033 **EASY** Ecology**The Galapagos Islands inspired which famous theory?**

A Germ Theory

B Cell Theory

C Evolution by Natural Selection ✓

D Plate Tectonics

Q034 **EASY** Mammalogy**What is a group of lions called?**

A Pack

B Pride ✓

C Herd

D Colony

Q035 **EASY** Physiology**What is the function of red blood cells?**

- | | | |
|---|------------------|---|
| A | Fight infection | |
| B | Carry oxygen | ✓ |
| C | Clot blood | |
| D | Produce hormones | |

■ MEDIUM — Questions 36–70**Q036** **MEDIUM** Taxonomy**Which phylum includes animals with a notochord at some stage in their development?**

- | | | |
|---|---------------|---|
| A | Arthropoda | |
| B | Echinodermata | |
| C | Chordata | ✓ |
| D | Mollusca | |

Q037 **MEDIUM** Genetics**What type of reproduction involves a single parent and produces genetically identical offspring?**

- | | | |
|---|---------------------|---|
| A | Sexual | |
| B | Binary fission only | |
| C | Asexual | ✓ |
| D | Conjugation | |

Q038 MEDIUM Cell Biology**What is the powerhouse of the cell?**

- A Nucleus
- B Ribosome
- C Mitochondria** ✓
- D Endoplasmic reticulum

Q039 MEDIUM Marine Life**Which of the following animals is an echinodermate?**

- A Jellyfish
- B Octopus
- C Sea urchin** ✓
- D Sea anemone

Q040 MEDIUM Ecology**What is the term for the symbiotic relationship where one organism benefits and the other is unaffected?**

- A Mutualism
- B Parasitism
- C Commensalism** ✓
- D Predation

Q041 MEDIUM Anatomy**Which part of the brain controls balance and coordination?**

- | | | |
|----------|-------------------|---|
| A | Cerebrum | |
| B | Medulla oblongata | |
| C | Cerebellum | ✓ |
| D | Thalamus | |

Q042 MEDIUM Anatomy**How many bones are in the adult human body?**

- | | | |
|----------|------------|---|
| A | 186 | |
| B | 206 | ✓ |
| C | 226 | |
| D | 246 | |

Q043 MEDIUM Ichthyology**What is the study of fish called?**

- | | | |
|----------|--------------------|---|
| A | Herpetology | |
| B | Malacology | |
| C | Ichthyology | ✓ |
| D | Ornithology | |

Q044 **MEDIUM** Physiology

Which hormone regulates blood sugar levels in mammals?

- A Adrenaline
- B Thyroxine
- C Insulin**
- D Cortisol

**Q045** **MEDIUM** Taxonomy

What is the largest phylum in the animal kingdom (by number of species)?

- A Chordata
- B Mollusca
- C Arthropoda**
- D Annelida

**Q046** **MEDIUM** Genetics

Which type of cell division produces gametes (sperm and eggs)?

- A Mitosis
- B Meiosis**
- C Binary fission
- D Budding



Q047 MEDIUM Cell Biology

The process by which water moves across a semi-permeable membrane is called?

- A Diffusion
- B Active transport
- C Osmosis** ✓
- D Filtration

Q048 MEDIUM Physiology

What is the primary function of the lymphatic system?

- A Digestion
- B Gas exchange
- C Immune defense and fluid balance** ✓
- D Hormonal regulation

Q049 MEDIUM Marine Life

Bioluminescence in deep-sea organisms is primarily used for?

- A Photosynthesis
- B Warming body
- C Communication and predation** ✓
- D Navigation

Q050 MEDIUM Herpetology

Which class of animals includes frogs, toads and salamanders?

A Reptilia

B Amphibia ✓

C Pisces

D Aves

Q051 MEDIUM Physiology

What is the term for animals that maintain a constant internal body temperature?

A Ectotherms

B Poikilotherms

C Endotherms ✓

D Mesotherms

Q052 MEDIUM Cell Biology

Which organelle is responsible for protein synthesis?

A Golgi apparatus

B Lysosome

C Ribosome ✓

D Centrosome

Q053 MEDIUM Genetics

The blood type system most commonly used in medicine is?

- A MNS system
- B Rh system alone
- C ABO system** ✓
- D Lewis system

Q054 MEDIUM Physiology

What is estivation in zoology?

- A Winter dormancy
- B Summer dormancy in response to heat/drought** ✓
- C Seasonal migration
- D Mating ritual

Q055 MEDIUM Anatomy

Which structure connects a muscle to a bone?

- A Ligament
- B Cartilage
- C Tendon** ✓
- D Fascia

Q056 **MEDIUM** Mammalogy

In which group of animals do the young develop inside a pouch after birth?

A Placental mammals

B Monotremes

C Marsupials ✓

D Reptiles

Q057 **MEDIUM** Anatomy

What is the function of the nephron?

A Gas exchange

B Nerve impulse transmission

C Urine formation and filtration ✓

D Hormone secretion

Q058 **MEDIUM** Marine Life

Which sense is most developed in sharks for detecting prey?

A Vision

B Hearing

C Electroreception (ampullae of Lorenzini) ✓

D Taste

Q059 **MEDIUM** Ecology**Animals that live in the soil are called?**

- A Aquatic
- B Arboreal
- C Fossorial** ✓
- D Cursorial

Q060 **MEDIUM** Physiology**What is the role of T-lymphocytes in the immune system?**

- A Produce antibodies
- B Cell-mediated immunity** ✓
- C Blood clotting
- D Transport oxygen

Q061 **MEDIUM** Mammalogy**Which animal has the longest gestation period?**

- A Blue Whale
- B African Elephant** ✓
- C Hippopotamus
- D Giraffe

Q062 MEDIUM Ecology

What is the name of the process by which dead organic matter is broken down by organisms?

- A Predation
- B Decomposition** ✓
- C Commensalism
- D Parasitism

Q063 MEDIUM Anatomy

Which structure in the ear is responsible for detecting sound waves?

- A Semicircular canals
- B Eustachian tube
- C Cochlea** ✓
- D Tympanic membrane

Q064 MEDIUM Ecology

What is mimicry in animals?

- A Camouflage using color only
- B An organism resembling another for evolutionary advantage** ✓
- C Territorial display
- D Communication by sound

Q065 **MEDIUM** Mammalogy

Monotremes are unique among mammals because they?

- A Lack fur
- B Give birth live only
- C Lay eggs** ✓
- D Are always nocturnal

Q066 **MEDIUM** Physiology

Which vitamin is produced in human skin upon exposure to sunlight?

- A Vitamin A
- B Vitamin C
- C Vitamin D** ✓
- D Vitamin K

Q067 **MEDIUM** Taxonomy

The binomial nomenclature system was developed by?

- A Charles Darwin
- B Gregor Mendel
- C Carl Linnaeus** ✓
- D Louis Pasteur

Q068 MEDIUM Anatomy

What type of tissue lines the inner surface of organs?

- A Connective tissue
- B Muscle tissue
- C Epithelial tissue** ✓
- D Nervous tissue

Q069 MEDIUM Marine Life

Which animal is known to have the most complex nervous system among invertebrates?

- A Earthworm
- B Octopus** ✓
- C Starfish
- D Sea anemone

Q070 MEDIUM Zoology

What does 'bilateral symmetry' mean in animal body plans?

- A No symmetry
- B Radial symmetry around a center
- C Body can be divided into equal halves along one plane** ✓
- D Multiple planes of symmetry

■ **HARD** — Questions 71–100

Q071 **HARD** Genetics

Which enzyme is responsible for unwinding the DNA double helix during replication?

- A DNA Polymerase
- B Helicase** ✓
- C Ligase
- D Primase

Q072 **HARD** Genetics

The Hardy-Weinberg equilibrium principle states that allele frequencies in a population remain constant in the absence of?

- A Mutation, selection, gene flow, genetic drift, non-random mating** ✓
- B Only mutation and selection
- C Only genetic drift
- D Only natural selection

Q073 **HARD** Anatomy

Which type of collagen is most abundant in vertebrate connective tissue?

- A Type II
- B Type III
- C Type I** ✓
- D Type IV

Q074 **HARD** Physiology**What is the Cori cycle?**

- A Fatty acid oxidation pathway
- B The recycling of lactate from muscle to glucose in liver** ✓
- C Urea cycle in kidneys
- D Carbon dioxide transport in blood

Q075 **HARD** Ecology**Batesian mimicry differs from Mullerian mimicry in that:**

- A Both species are dangerous in Batesian
- B A harmless species mimics a harmful one in Batesian; both harmful in Mullerian** ✓
- C Mullerian involves only color; Batesian involves behavior
- D There is no difference

Q076 **HARD** Genetics**Which nematode was the first multicellular organism to have its genome fully sequenced?**

- A *Ascaris lumbricoides*
- B *Caenorhabditis elegans*** ✓
- C *Trichinella spiralis*
- D *Necator americanus*

Q077 **HARD** Physiology

What is the function of the juxtaglomerular apparatus in the kidney?

- A Glucose reabsorption
- B Regulating blood pressure via renin secretion** ✓
- C Producing erythropoietin only
- D Filtering large proteins

Q078 **HARD** Physiology

The von Willebrand factor is essential for:

- A Oxygen transport
- B Immune response
- C Platelet adhesion and blood clotting** ✓
- D Bile production

Q079 **HARD** Physiology

Which receptor type mediates the 'fight or flight' response in mammals?

- A Muscarinic receptors
- B Nicotinic receptors
- C Adrenergic receptors** ✓
- D Dopaminergic receptors

Q080 **HARD** Marine Life

In the classification of Cnidaria, what distinguishes the polyp form from the medusa form?

- A Polyp is free-swimming; medusa is sessile
- B Both are identical in structure
- C Polyp is sessile with mouth upward; medusa is free-swimming with mouth downward** ✓
- D Medusa has no tentacles

Q081 **HARD** Physiology

Which protein is responsible for the sliding filament model of muscle contraction?

- A Actin and myosin interaction** ✓
- B Troponin alone
- C Titin only
- D Collagen cross-bridges

Q082 **HARD** Genetics

What is the significance of the zona pellucida in mammalian reproduction?

- A Site of fertilization only
- B Prevents polyspermy and supports early embryo** ✓
- C Produces hormones
- D Forms the placenta

Q083 **HARD** Physiology

Which class of immunoglobulins crosses the human placenta to provide neonatal immunity?

- A IgA
- B IgE
- C IgM
- D IgG**

**Q084** **HARD** Genetics

In genetic terminology, 'epistasis' refers to:

- A A single gene affecting multiple traits
- B One gene masking or modifying the expression of another gene**
- C Incomplete dominance
- D Co-dominance between alleles

**Q085** **HARD** Physiology

Which oxidative phosphorylation complex is directly inhibited by cyanide poisoning?

- A Complex I
- B Complex II
- C Complex III
- D Complex IV (Cytochrome c oxidase)**



Q086 **HARD** Ichthyology

The 'countercurrent exchange' system in fish gills serves to:

- A Cool the blood
- B Maximize oxygen uptake from water into blood** ✓
- C Excrete ammonia
- D Regulate pH

Q087 **HARD** Ecology

What is 'kin selection' in evolutionary biology?

- A Selection that favors traits beneficial to unrelated individuals
- B Natural selection favoring behaviors that benefit genetic relatives** ✓
- C Selecting the strongest individual
- D Sexual selection among siblings

Q088 **HARD** Entomology

Which structure in the insect tracheal system allows gas exchange at the cellular level?

- A Spiracles
- B Tracheae
- C Tracheoles** ✓
- D Air sacs

Q089 **HARD** Genetics

The CRISPR-Cas9 system in bacteria originally evolved as a:

- A Replication mechanism
- B Adaptive immune system against viral DNA** ✓
- C DNA repair mechanism
- D Transcription regulator

Q090 **HARD** Genetics

Which phenomenon causes the development of different phenotypes from the same genotype based on maternal effects?

- A Genomic imprinting
- B Maternal inheritance
- C Maternal effect (cytoplasmic inheritance)** ✓
- D X-inactivation

Q091 **HARD** Ecology

In the context of population ecology, the 'Allee effect' describes:

- A Exponential population growth
- B Reduced fitness at low population densities** ✓
- C Increased competition at high densities
- D The effect of predators on prey cycles

Q092 **HARD** Physiology

Which protein acts as the main oxygen-binding molecule in the blood of most annelid worms?

- A Hemoglobin
- B Hemocyanin
- C Hemerythrin
- D Chlorocruorin** ✓

Q093 **HARD** Cell Biology

What is the primary structural difference between prokaryotic and eukaryotic ribosomes?

- A Eukaryotic have 70S; prokaryotic have 80S
- B Prokaryotic have 70S; eukaryotic have 80S** ✓
- C Both have identical 80S ribosomes
- D Prokaryotic have no ribosomes

Q094 **HARD** Ichthyology

The lateral line system in fish detects:

- A Temperature changes
- B Chemical gradients
- C Pressure waves and vibrations in water** ✓
- D Light intensity

Q095 **HARD** Cell Biology

Which theory proposes that mitochondria originated from ancient endosymbiotic bacteria?

- A Cell Theory
- B Endosymbiotic Theory** ✓
- C Fluid Mosaic Model
- D Oparin-Haldane Theory

Q096 **HARD** Ecology

What is 'sexual selection' as proposed by Darwin?

- A Natural selection acting on feeding behavior; e.g. beak shape
- B A form of natural selection where traits evolve due to mating advantages; e.g. peacock tail** ✓
- C Survival of the fittest body size only
- D Selection acting on camouflage

Q097 **HARD** Cell Biology

The peptidoglycan cell wall is characteristic of:

- A All living cells
- B Only plant cells
- C Bacteria** ✓
- D Fungi and plants

Q098 **HARD** Marine Life

In echinoderms, the water vascular system primarily functions in:

- A Gas exchange
- B Reproduction
- C Locomotion, feeding, and gas exchange via tube feet** ✓
- D Excretion only

Q099 **HARD** Genetics

Which molecular technique uses fluorescently labeled probes to detect specific nucleic acid sequences in fixed tissue?

- A PCR
- B Southern Blotting
- C Fluorescence In Situ Hybridization (FISH)** ✓
- D Gel Electrophoresis

Q100 **HARD** Genetics

The phenomenon whereby a single gene influences multiple phenotypic traits is called:

- A Polygeny
- B Epistasis
- C Pleiotropy** ✓
- D Codominance

Answer Summary

Quick reference — all 100 correct answers at a glance

| | | | |
|--|--|--|---|
| ■ Q001 C. Cell | ■ Q002 B. Blue Whale | ■ Q003 C. Herbivores | ■ Q004 B. 6 |
| ■ Q005 D. Heart | ■ Q006 C. Oxygen | ■ Q007 B. Ornithology | ■ Q008 C. Bat |
| ■ Q009 C. Nocturnal | ■ Q010 C. 4 | ■ Q011 B. Chitin | ■ Q012 C. Snake |
| ■ Q013 C. Omnivores | ■ Q014 B. Skin | ■ Q015 C. Endoskeleton | ■ Q016 C. Lion |
| ■ Q017 C. Frog | ■ Q018 B. 8 | ■ Q019 C. Nucleus | ■ Q020 C. Blowholes |
| ■ Q021 A. Metamorphosis | ■ Q022 B. Earthworm | ■ Q023 C. Cheetah | ■ Q024 B. School |
| ■ Q025 B. Herpetology | ■ Q026 B. Silkworm | ■ Q027 C. Cellular Respiration | ■ Q028 C. Arteries |
| ■ Q029 C. Homo sapiens | ■ Q030 C. Gills | ■ Q031 B. Bat | ■ Q032 C. 1 day |
| ■ Q033 C. Evolution by Natural Selecti... | ■ Q034 B. Pride | ■ Q035 B. Carry oxygen | ■ Q036 C. Chordata |
| ■ Q037 C. Asexual | ■ Q038 C. Mitochondria | ■ Q039 C. Sea urchin | ■ Q040 C. Commensalism |
| ■ Q041 C. Cerebellum | ■ Q042 B. 206 | ■ Q043 C. Ichthyology | ■ Q044 C. Insulin |
| ■ Q045 C. Arthropoda | ■ Q046 B. Meiosis | ■ Q047 C. Osmosis | ■ Q048 C. Immune defense and fluid bal... |
| ■ Q049 C. Communication and predation | ■ Q050 B. Amphibia | ■ Q051 C. Endotherms | ■ Q052 C. Ribosome |
| ■ Q053 C. ABO system | ■ Q054 B. Summer dormancy in response ... | ■ Q055 C. Tendon | ■ Q056 C. Marsupials |
| ■ Q057 C. Urine formation and filtrati... | ■ Q058 C. Electroreception (ampullae o... | ■ Q059 C. Fossorial | ■ Q060 B. Cell-mediated immunity |
| ■ Q061 B. African Elephant | ■ Q062 B. Decomposition | ■ Q063 C. Cochlea | ■ Q064 B. An organism resembling anothe... |
| ■ Q065 C. Lay eggs | ■ Q066 C. Vitamin D | ■ Q067 C. Carl Linnaeus | ■ Q068 C. Epithelial tissue |
| ■ Q069 B. Octopus | ■ Q070 C. Body can be divided into equ... | ■ Q071 B. Helicase | ■ Q072 A. Mutation, selection, gene fl... |
| ■ Q073 C. Type I | ■ Q074 B. The recycling of lactate fro... | ■ Q075 B. A harmless species mimics a ... | ■ Q076 B. Caenorhabditis elegans |
| ■ Q077 B. Regulating blood pressure vi... | ■ Q078 C. Platelet adhesion and blood ... | ■ Q079 C. Adrenergic receptors | ■ Q080 C. Polyp is sessile with mouth ... |
| ■ Q081 A. Actin and myosin interaction | ■ Q082 B. Prevents polyspermy and supp... | ■ Q083 D. IgG | ■ Q084 B. One gene masking or modifyin... |
| ■ Q085 D. Complex IV (Cytochrome c oxi... | ■ Q086 B. Maximize oxygen uptake from ... | ■ Q087 B. Natural selection favoring b... | ■ Q088 C. Tracheoles |
| ■ Q089 B. Adaptive immune system again... | ■ Q090 C. Maternal effect (cytoplasmic... | ■ Q091 B. Reduced fitness at low popul... | ■ Q092 D. Chlorocruorin |

| | | | |
|--|--|--|--|
| ■ Q093 B. Prokaryotic have 70S; eukary... | ■ Q094 C. Pressure waves and vibration... | ■ Q095 B. Endosymbiotic Theory | ■ Q096 B. A form of natural selection ... |
| ■ Q097 C. Bacteria | ■ Q098 C. Locomotion, feeding, and gas... | ■ Q099 C. Fluorescence In Situ Hybridi... | ■ Q100 C. Pleiotropy |

■ *Zoology Master Quiz — Volume I • 100 Multiple Choice Questions • Solved Edition* ■