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# INVERTEBRATES

## Biology MCQs

**50 Solved Questions**

Answers ticked and highlighted
with an explanation for every MCQ

# Basics, Porifera, Cnidaria & Ctenophora

## Question 1

**Animals that lack a vertebral column (backbone) are collectively called:**

- A. Chordates
- ✓ **B. Invertebrates**
- C. Vertebrates
- D. Mammals

**Correct answer: B) Invertebrates**

**Explanation:** Invertebrates have no backbone. They make up the vast majority of all animal species.

## Question 2

**Sponges belong to the phylum:**

- A. Cnidaria
- B. Mollusca
- ✓ **C. Porifera**
- D. Echinodermata

**Correct answer: C) Porifera**

**Explanation:** Porifera means pore-bearing. A sponge's body wall is perforated by many tiny pores called ostia.

## Question 3

**Which cells create the water current inside a sponge?**

- ✓ **A. Choanocytes (collar cells)**
- B. Cnidocytes
- C. Pinacocytes
- D. Nematocytes

**Correct answer: A) Choanocytes (collar cells)**

**Explanation:** Flagellated choanocytes beat to draw water through the body and also trap food particles.

## Question 4

**The spicules that support a sponge's body are secreted by:**

- A. Choanocytes
- B. Pinacocytes
- C. Porocytes
- ✓ **D. Amoebocytes**

**Correct answer: D) Amoebocytes**

**Explanation:** Amoebocytes (sclerocytes) secrete spicules or spongin fibres that form the sponge skeleton.

## Question 5

**Water leaves the sponge body through the large opening called the:**

- A. Ostium
- ✓ **B. Osculum**
- C. Pharynx
- D. Cloaca

**Correct answer: B) Osculum**

**Explanation:** Water enters through many small ostia and flows out through the single large osculum.

## Question 6

**The stinging cells of cnidarians are called:**

- A. Choanocytes
- B. Flame cells
- ✓ **C. Cnidocytes**
- D. Solenocytes

**Correct answer: C) Cnidocytes**

**Explanation:** Cnidocytes contain a coiled stinging thread (nematocyst) used for defence and capturing prey.

## Question 7

**The two basic body forms found in cnidarians are:**

- A. Larva and pupa
- ✓ **B. Polyp and medusa**
- C. Scolex and proglottid
- D. Trochophore and veliger

**Correct answer: B) Polyp and medusa**

**Explanation:** The polyp is a sessile, cylindrical form (Hydra); the medusa is a free-swimming, umbrella-shaped form (jellyfish).

## Question 8

**Hydra commonly reproduces asexually by:**

- A. Binary fission
- B. Sporulation
- ✓ **C. Budding**
- D. Conjugation

**Correct answer: C) Budding**

**Explanation:** A small bud grows on the parent's body, develops tentacles and then detaches as a new Hydra.

## Question 9

**The digestive cavity of cnidarians is called the:**

- ✓ **A. Gastrovascular cavity**
- B. Coelom
- C. Haemocoel
- D. Pseudocoel

**Correct answer: A) Gastrovascular cavity**

**Explanation:** A single opening acts as both mouth and anus and leads into the gastrovascular cavity.

## Question 10

**Coral reefs are built mainly by members of class:**

- A. Hydrozoa
- B. Scyphozoa
- C. Cubozoa
- ✓ **D. Anthozoa**

**Correct answer: D) Anthozoa**

**Explanation:** Anthozoan polyps secrete calcium carbonate skeletons that accumulate to form coral reefs.

## Question 11

**Aurelia, the moon jellyfish, belongs to class:**

- A. Anthozoa
- B. Hydrozoa
- ✓ **C. Scyphozoa**
- D. Cubozoa

**Correct answer: C) Scyphozoa**

**Explanation:** Scyphozoa are the true jellyfish, in which the medusa is the dominant stage of the life cycle.

## Question 12

**Comb jellies (Ctenophora) swim by means of:**

- A. Tube feet
- ✓ **B. Eight rows of ciliated comb plates**
- C. Parapodia
- D. A muscular foot

**Correct answer: B) Eight rows of ciliated comb plates**

**Explanation:** Ctenophores move by beating the fused cilia of eight rows of comb plates.

## Question 13

**Cnidarians show which type of body symmetry?**

- A. Asymmetry
- B. Bilateral symmetry
- ✓ **C. Radial symmetry**
- D. Spherical symmetry

**Correct answer: C) Radial symmetry**

**Explanation:** Cnidarians are radially symmetrical, which suits sessile or drifting life.

## Platyhelminthes & Nematoda

### Question 14

**Flatworms (Platyhelminthes) are described as:**

- A. Coelomate and segmented
- B. Pseudocoelomate
- ✓ **C. Acoelomate and bilaterally symmetrical**
- D. Radially symmetrical with a haemocoel

**Correct answer: C) Acoelomate and bilaterally symmetrical**

**Explanation:** Flatworms have no body cavity (acoelomate), are bilaterally symmetrical and are flattened from top to bottom.

## Question 15

**The excretory (osmoregulatory) cells of flatworms are:**

- A. Nephridia
- B. Malpighian tubules
- C. Green glands
- ✓ **D. Flame cells**

**Correct answer: D) Flame cells**

**Explanation:** Flame cells (protonephridia) use beating cilia to remove excess water and some wastes.

## Question 16

**The intermediate host of Taenia solium, the pork tapeworm, is the:**

- A. Cow
- B. Snail
- ✓ **C. Pig**
- D. Fish

**Correct answer: C) Pig**

**Explanation:** Humans get infected by eating undercooked pork that contains cysticerci larvae.

## Question 17

**The intermediate host of the liver fluke (Fasciola hepatica) is a:**

- ✅ **A. Snail**
- **B.** Pig
- **C.** Mosquito
- **D.** Fish

**Correct answer: A) Snail**

**Explanation:** Larval stages of the liver fluke develop inside a freshwater snail before infecting sheep or cattle.

## Question 18

**Which flatworm is famous for its power of regeneration?**

- **A.** Taenia
- **B.** Fasciola
- ✅ **C. Planaria**
- **D.** Schistosoma

**Correct answer: C) Planaria**

**Explanation:** Planaria can regrow a complete animal from a small piece of its body.

## Question 19

**A tapeworm absorbs nutrients through its:**

- A. Mouth
- ✓ **B. Body surface**
- C. Anus
- D. Pharynx

**Correct answer: B) Body surface**

**Explanation:** Tapeworms have no digestive tract and absorb the host's digested food directly through the body surface.

## Question 20

**The body cavity of roundworms such as Ascaris is a:**

- A. True coelom
- ✓ **B. Pseudocoelom**
- C. Haemocoel
- D. Gastrovascular cavity

**Correct answer: B) Pseudocoelom**

**Explanation:** A pseudocoelom is a body cavity that is not completely lined by mesoderm.

## Question 21

**The digestive tract of roundworms is:**

- A. Absent
- B. Sac-like with one opening
- ✓ **C. Complete, with mouth and anus**
- D. Only a pharynx

**Correct answer: C) Complete, with mouth and anus**

**Explanation:** Nematodes have a complete alimentary canal with a separate mouth and anus.

## Question 22

**Elephantiasis (filariasis) is caused by:**

- A. Ascaris lumbricoides
- ✓ **B. Wuchereria bancrofti**
- C. Taenia solium
- D. Enterobius vermicularis

**Correct answer: B) Wuchereria bancrofti**

**Explanation:** Wuchereria bancrofti, spread mainly by Culex mosquitoes, blocks lymph vessels and causes swelling of the limbs.

## Question 23

**Ascaris lumbricoides is:**

- A. Hermaphrodite
- B. Monoecious
- ✓ **C. Dioecious**
- D. Parthenogenetic

**Correct answer: C) Dioecious**

**Explanation:** Sexes are separate (dioecious); the female is usually longer than the male.

# Phylum Annelida

## Question 24

**The division of the body into repeating similar segments is called:**

- ✓ **A. Metamerism**
- B. Cephalization
- C. Torsion
- D. Neoteny

**Correct answer: A) Metamerism**

**Explanation:** Metamerism (metameric segmentation) is a typical feature of annelids such as the earthworm.

## Question 25

**The excretory organs of the earthworm are:**

- A. Flame cells
- B. Malpighian tubules
- ✓ **C. Nephridia**
- D. Green glands

**Correct answer: C) Nephridia**

**Explanation:** Earthworms have segmentally arranged nephridia that remove nitrogenous wastes.

## Question 26

**The circulatory system of the earthworm is:**

- A. Open
- ✓ **B. Closed**
- C. Absent
- D. Lacunar

**Correct answer: B) Closed**

**Explanation:** Blood flows inside vessels and contains haemoglobin dissolved in the plasma.

## Question 27

**Earthworms breathe through their:**

- A. Gills
- B. Lungs
- C. Tracheae
- ✓ D. **Moist skin**

**Correct answer: D) Moist skin**

**Explanation:** Gas exchange takes place through the moist body surface (skin).

## Question 28

**Hirudin, an anticoagulant, is secreted by the saliva of a:**

- A. Mosquito
- ✓ B. **Leech**
- C. Tick
- D. Earthworm

**Correct answer: B) Leech**

**Explanation:** Hirudin from leech saliva prevents blood from clotting while the leech feeds.

## Question 29

**The glandular region of an earthworm that forms the cocoon is the:**

- ✔ **A. Clitellum**
- **B.** Typhlosole
- **C.** Gizzard
- **D.** Prostomium

**Correct answer: A) Clitellum**

**Explanation:** The clitellum (segments 14 to 16) secretes the cocoon in which the eggs are laid.

## Question 30

**Earthworms are called the farmer's friends because they:**

- **A.** Eat crop pests
- **B.** Pollinate flowers
- ✔ **C. Loosen and enrich the soil**
- **D.** Fix nitrogen from air

**Correct answer: C) Loosen and enrich the soil**

**Explanation:** Their burrowing aerates the soil and their castings add nutrients.

# Phylum Arthropoda

## Question 31

**The largest phylum in the animal kingdom is:**

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

**Correct answer: B) Arthropoda**

**Explanation:** Arthropoda contains more species than all other animal phyla combined, mostly insects.

## Question 32

**The arthropod exoskeleton is mainly made of:**

- A. Cellulose
- B. Keratin
- ✓ **C. Chitin**
- D. Calcium phosphate

**Correct answer: C) Chitin**

**Explanation:** Chitin, a tough nitrogen-containing polysaccharide, forms the cuticle of arthropods.

## Question 33

**The circulatory system of arthropods is:**

- ✔ **A. Open**
- **B.** Closed
- **C.** Absent
- **D.** Lymphatic only

**Correct answer: A) Open**

**Explanation:** Blood (haemolymph) is pumped into body spaces called the haemocoel and bathes the organs directly.

## Question 34

**The excretory organs of insects are:**

- **A.** Nephridia
- **B.** Flame cells
- **C.** Green glands
- ✔ **D. Malpighian tubules**

**Correct answer: D) Malpighian tubules**

**Explanation:** Malpighian tubules collect nitrogenous waste from the haemolymph and empty into the gut.

## Question 35

**The respiratory organs of insects are:**

- A. Gills
- B. Book lungs
- ✓ **C. Tracheae**
- D. Lungs

**Correct answer: C) Tracheae**

**Explanation:** A network of air tubes called tracheae carries oxygen directly to the tissues.

## Question 36

**The body of an insect is divided into:**

- A. Cephalothorax and abdomen
- ✓ **B. Head, thorax and abdomen**
- C. Head and trunk
- D. Prosoma and opisthosoma

**Correct answer: B) Head, thorax and abdomen**

**Explanation:** Insects have three body regions, and three pairs of legs attached to the thorax.

## Question 37

**Spiders and scorpions belong to class:**

- A. Insecta
- B. Crustacea
- ✓ **C. Arachnida**
- D. Chilopoda

**Correct answer: C) Arachnida**

**Explanation:** Arachnids have four pairs of legs and no antennae.

## Question 38

**In a honeybee colony, the worker bees are:**

- A. Fertile males
- ✓ **B. Sterile females**
- C. Fertile females
- D. Sterile males

**Correct answer: B) Sterile females**

**Explanation:** Workers are sterile females. The queen lays the eggs and drones are the males.

## Question 39

**The correct sequence of complete metamorphosis is:**

- A. Egg, Pupa, Larva, Adult
- ✓ **B. Egg, Larva, Pupa, Adult**
- C. Egg, Nymph, Adult
- D. Larva, Egg, Pupa, Adult

**Correct answer: B) Egg, Larva, Pupa, Adult**

**Explanation:** Butterflies and moths pass through egg, larva, pupa and adult stages.

## Question 40

**Malaria is transmitted by the bite of:**

- ✓ **A. Female Anopheles mosquito**
- B. Male Anopheles mosquito
- C. Female Aedes mosquito
- D. Tsetse fly

**Correct answer: A) Female Anopheles mosquito**

**Explanation:** Only the female Anopheles feeds on blood and carries the Plasmodium parasite.

## Question 41

**Which of these is a crustacean?**

- A. Scorpion
- B. Spider
- ✓ C. Crab
- D. Centipede

**Correct answer: C) Crab**

**Explanation:** Crabs, prawns and lobsters are crustaceans. Scorpions and spiders are arachnids.

## Question 42

**Crustaceans typically have how many pairs of antennae?**

- A. One
- ✓ B. Two
- C. Three
- D. None

**Correct answer: B) Two**

**Explanation:** Crustaceans have two pairs of antennae, whereas insects have only one pair.

## Question 43

**The silk of the silkworm Bombyx mori is obtained from its:**

- A. Egg
- ✓ **B. Cocoon**
- C. Adult wings
- D. Nymph

**Correct answer: B) Cocoon**

**Explanation:** The silkworm larva spins a cocoon of silk thread before turning into a pupa.

# Mollusca & Echinodermata

## Question 44

**The second largest phylum of the animal kingdom is:**

- A. Arthropoda
- ✓ **B. Mollusca**
- C. Nematoda
- D. Echinodermata

**Correct answer: B) Mollusca**

**Explanation:** Mollusca includes snails, clams, squids and octopuses.

## Question 45

**The shell of a mollusc is secreted by the:**

- A. Foot
- B. Radula
- ✓ **C. Mantle**
- D. Gill

**Correct answer: C) Mantle**

**Explanation:** The mantle, a fold of skin over the visceral mass, secretes the calcareous shell.

## Question 46

**The rasping feeding organ of many molluscs is the:**

- ✓ **A. Radula**
- B. Gizzard
- C. Proboscis
- D. Siphon

**Correct answer: A) Radula**

**Explanation:** The radula is a file-like tongue with rows of tiny teeth used to scrape food.

## Question 47

**The octopus and squid belong to class:**

- A. Gastropoda
- B. Bivalvia
- ✓ **C. Cephalopoda**
- D. Polyplacophora

**Correct answer: C) Cephalopoda**

**Explanation:** Cephalopods have tentacles around the head, well-developed eyes and a closed circulatory system.

## Question 48

**The water vascular system is a unique feature of phylum:**

- ✓ **A. Echinodermata**
- B. Annelida
- C. Porifera
- D. Mollusca

**Correct answer: A) Echinodermata**

**Explanation:** Echinoderms use a network of water-filled canals for movement, feeding and gas exchange.

## Question 49

**Adult echinoderms show:**

- A. Bilateral symmetry
- ✓ **B. Pentamerous radial symmetry**
- C. No symmetry
- D. Spherical symmetry

**Correct answer: B) Pentamerous radial symmetry**

**Explanation:** Adults are radial with body parts in multiples of five, while the larvae are bilaterally symmetrical.

## Question 50

**Starfish move mainly by means of:**

- A. Parapodia
- B. Cilia
- ✓ **C. Tube feet**
- D. Setae

**Correct answer: C) Tube feet**

**Explanation:** Tube feet, powered by the water vascular system, let starfish creep and grip surfaces.

# Quick Answer Key

| | | | | |
|---|---|---|---|---|
| 1 - B | 11 - C | 21 - C | 31 - B | 41 - C |
| 2 - C | 12 - B | 22 - B | 32 - C | 42 - B |
| 3 - A | 13 - C | 23 - C | 33 - A | 43 - B |
| 4 - D | 14 - C | 24 - A | 34 - D | 44 - B |
| 5 - B | 15 - D | 25 - C | 35 - C | 45 - C |
| 6 - C | 16 - C | 26 - B | 36 - B | 46 - A |
| 7 - B | 17 - A | 27 - D | 37 - C | 47 - C |
| 8 - C | 18 - C | 28 - B | 38 - B | 48 - A |
| 9 - A | 19 - B | 29 - A | 39 - B | 49 - B |
| 10 - D | 20 - B | 30 - C | 40 - A | 50 - C |



# Well Done!

You have completed all 50 MCQs
on Invertebrates.

Revise the explanations, then try again
without looking at the answers.

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