

Animal Kingdom — NEET MCQs with Solutions

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Q1. Which phylum represents the cellular level of organisation?

- (A) Cnidaria
- (B) Platyhelminthes
- (C) Porifera
- (D) Annelida

Q2. Acoelomates are animals that:

- (A) Have a false body cavity not lined by mesoderm
- (B) Lack a body cavity entirely
- (C) Possess a true coelom lined by mesoderm
- (D) Have a haemocoel instead of a true coelom

Q3. The small pores on the body surface of sponges through which water enters are called:

- (A) Ostia
- (B) Oscula
- (C) Choanopores
- (D) Spiracles

Q4. Which of the following CORRECTLY describes reproduction in Porifera?

- (A) Only sexual reproduction occurs via gamete formation
- (B) Both asexual (budding, fragmentation, gemmules) and sexual reproduction occur; sponges are hermaphrodites
- (C) Only asexual reproduction by gemmules occurs in all sponges
- (D) Sponges reproduce only by binary fission

Q5. The free-swimming, umbrella-shaped life form of cnidarians is called:

- (A) Polyp
- (B) Gemmule
- (C) Medusa
- (D) Scolex

Q6. Coral reefs support extraordinarily high marine biodiversity. Which of the following correctly explains the structural basis for reef formation?

- (A) Coral medusae secrete silica skeletons that accumulate as reefs
- (B) Coral polyps secrete calcium carbonate exoskeletons that accumulate over generations forming reef structures
- (C) Coral colonies trap sediment and sand which hardens into reef over time
- (D) Dead sponge spicules form the scaffold which coral polyps colonize

Q7. The comb plates in Ctenophora are also called:

- (A) Ctenes
- (B) Cnidoblasts
- (C) Ostia
- (D) Parapodia

Q8. Ctenophores differ from cnidarians in which of the following features?

- (A) Presence of radial symmetry
- (B) Possession of a gastrovascular cavity
- (C) Absence of cnidoblasts; prey captured by colloblasts
- (D) Diploblastic body organization

Q9. Which of the following groups consists mostly of free-living members in Platyhelminthes?

- (A) Turbellaria
- (B) Cestoda
- (C) Trematoda
- (D) Monogenea

Q10. Which of the following CORRECTLY identifies the combination of features present in Platyhelminthes?

- (A) Triploblastic, coelomate, organ-level organization
- (B) Diploblastic, acoelomate, tissue-level organization
- (C) Triploblastic, acoelomate, organ-level organization
- (D) Triploblastic, pseudocoelomate, organ-level organization

Q11. Which of the following organisms belongs to phylum Aschelminthes?

- (A) Taenia solium
- (B) Ascaris lumbricoides
- (C) Fasciola hepatica
- (D) Aurelia aurita

Q12. Which sequence correctly represents the evolutionary progression of body cavity complexity?

- (A) Annelida → Aschelminthes → Platyhelminthes
- (B) Platyhelminthes → Aschelminthes → Annelida
- (C) Aschelminthes → Platyhelminthes → Annelida
- (D) Cnidaria → Annelida → Aschelminthes

Q13. Which type of body cavity is present in annelids?

- (A) Acoelom
- (B) Pseudocoel
- (C) Hemocoel
- (D) True coelom (schizocoelom)

Q14. Nereis differs from earthworm in possessing:

- (A) Closed circulatory system
- (B) Nephridia
- (C) Parapodia for locomotion and respiration
- (D) Clitellum

Q15. The respiratory organ in Palaemon (prawn) is:

- (A) Gills enclosed in a branchial chamber
- (B) Tracheae opening via spiracles
- (C) Book lungs in the abdomen
- (D) General body surface

Q16. Periplaneta americana belongs to class Insecta. Which combination of features is DIAGNOSTIC of this class?

- (A) Two pairs of antennae and four pairs of legs
- (B) Book lungs and no antennae
- (C) Three pairs of thoracic legs and one pair of antennae
- (D) Seven pairs of legs and tracheal respiration

Q17. The calcareous shell in molluscs is secreted by which structure?

- (A) Foot
- (B) Visceral mass
- (C) Ctenidia
- (D) Mantle

Q18. The nervous system in Mollusca is best described as:

- (A) A single ventral nerve cord as in Annelida
- (B) Paired ganglia (cerebral, pleural, pedal, visceral) connected by nerve cords
- (C) A nerve net without any ganglionic organization
- (D) A dorsal hollow nerve cord as in Chordates

Q19. Which animal is correctly identified as a sea urchin?

- (A) Asterias
- (B) Cucumaria
- (C) Ophiura
- (D) Echinus

Q20. The bipinnaria larva is associated with which echinoderm?

- (A) Sea urchin
- (B) Starfish
- (C) Brittle star
- (D) Sea cucumber

Q21. The digestive tract of Balanoglossus is best described as:

- (A) Incomplete; ending blindly
- (B) Sac-like with single opening
- (C) Straight, complete, extending from mouth to anus
- (D) Segmented with distinct compartments

Q22. Which of the following is CORRECT regarding Saccoglossus?

- (A) It is a hemichordate lacking stomochord and showing tripartite body
- (B) It is a hemichordate with stomochord and tripartite body
- (C) It is a chordate with tripartite body division
- (D) It is an echinoderm with tornaria larva

Q23. The three subphyla of phylum Chordata are:

- (A) Urochordata, Hemichordata, Vertebrata
- (B) Cephalochordata, Arthropoda, Vertebrata
- (C) Urochordata, Echinodermata, Vertebrata
- (D) Urochordata, Cephalochordata, Vertebrata

Q24. Sebaceous glands, which secrete sebum to lubricate skin and hair, are exclusively found in:

- (A) Mammalia
- (B) Aves
- (C) Reptilia
- (D) Amphibia

Answer key and explanations

Q1. Answer: (C) Porifera

Porifera show cellular level organisation — cells perform division of labour but are not organised into tissues. Cnidaria are the first to show tissue-level organisation, making them the top distractor. Platyhelminthes and Annelida show organ and organ system levels respectively.

Q2. Answer: (B) Lack a body cavity entirely

Acoelomates have no body cavity at all — the space between body wall and gut is filled with mesenchyme. Option A describes pseudocoelomates. Option C describes true coelomates. Option D describes the condition in Arthropoda (open circulatory system with haemocoel).

Q3. Answer: (A) Ostia

Ostia (singular: ostium) are the numerous small pores on the sponge body wall through which water enters. Oscula is the plural of osculum — the single exit opening. Spiracles are respiratory openings in Arthropoda — a cross-phylum trap.

Q4. Answer: (B) Both asexual (budding, fragmentation, gemmules) and sexual reproduction occur; sponges are hermaphrodites

Porifera show both asexual (budding, fragmentation, gemmule formation) and sexual reproduction. They are hermaphrodites — both eggs and sperms produced by the same individual — but cross-fertilisation occurs. Binary fission (Option D) is characteristic of unicellular organisms, not sponges.

Q5. Answer: (C) Medusa

The medusa is the free-swimming sexual stage, as seen in Aurelia (jellyfish). Gemmule (Option B) is a reproductive structure of Porifera — a common NEET distractor used to test cross-phylum knowledge.

Q6. Answer: (B) Coral polyps secrete calcium carbonate exoskeletons that accumulate over generations forming reef structures

Coral polyps (Anthozoa) secrete calcareous (CaCO_3) exoskeletons; these accumulate over thousands of years forming the physical reef structure that supports diverse ecosystems. Option A is wrong — corals have no medusa stage; Option D confuses sponge spicules with coral skeleton.

Q7. Answer: (A) Ctenes

Comb plates are called ctenes — rows of fused cilia arranged in 8 meridional bands. Cnidoblasts belong to Cnidaria; ostia are pores in Porifera.

Q8. Answer: (C) Absence of cnidoblasts; prey captured by colloblasts

Ctenophores lack cnidoblasts (stinging cells) and instead use adhesive colloblasts. Both groups share radial/biradial symmetry, a gastrovascular cavity, and diploblastic organization.

Q9. Answer: (A) Turbellaria

Turbellaria (e.g., *Dugesia*/Planaria) are mostly free-living, aquatic flatworms. Cestoda and Trematoda are exclusively parasitic; Monogenea are ectoparasites of fish.

Q10. Answer: (C) Triploblastic, acoelomate, organ-level organization

Platyhelminthes are triploblastic (three germ layers), acoelomate (no body cavity — space filled with mesenchyme), and show organ-level organization. Pseudocoelomate describes Nematoda; diploblastic describes Cnidaria and Ctenophora.

Q11. Answer: (B) Ascaris lumbricoides

Ascaris lumbricoides is the common intestinal roundworm — a classic Aschelminthes example. Taenia and Fasciola are Platyhelminthes; Aurelia is a Cnidarian.

Q12. Answer: (B) Platyhelminthes → Aschelminthes → Annelida

The correct sequence from least to most complex body cavity: acoelomate Platyhelminthes → pseudocoelomate Aschelminthes → true coelomate Annelida. This reflects increasing mesodermal organisation.

Q13. Answer: (D) True coelom (schizocoelom)

Annelids have a true coelom formed by splitting of mesoderm (schizocoely), completely lined by coelomic epithelium. Pseudocoel lacks complete mesodermal lining. Hemocoel is the open circulatory space in arthropods. Acoelom is absent in annelids.

Q14. Answer: (C) Parapodia for locomotion and respiration

Nereis (Polychaeta) bears parapodia — paired lateral appendages used for swimming and gas exchange — absent in earthworms (Oligochaeta). Both share closed circulation and nephridia. Clitellum is an earthworm feature, making it a strong distractor here.

Q15. Answer: (A) Gills enclosed in a branchial chamber

Prawns (class Crustacea) respire through gills housed in a branchial chamber beside the thorax. Tracheae and spiracles are features of Insecta; book lungs are found in Arachnida.

Q16. Answer: (C) Three pairs of thoracic legs and one pair of antennae

Insects (Insecta) are hexapods — three pairs of thoracic legs — and bear one pair of antennae. Two pairs of antennae is characteristic of Crustacea; book lungs and no antennae define Arachnida; seven pairs of legs is not a feature of any arthropod class.

Q17. Answer: (D) Mantle

The mantle is a soft fold of skin that covers the visceral mass and secretes the calcareous (calcium carbonate) shell. The foot is locomotory; ctenidia are respiratory gills; the visceral mass contains organs but does not secrete the shell.

Q18. Answer: (B) Paired ganglia (cerebral, pleural, pedal, visceral) connected by nerve cords

Molluscs possess paired ganglia — cerebral (head), pleural (mantle), pedal (foot), and visceral (organs) — interconnected by nerve cords. This is more advanced than the nerve net of Cnidaria but distinct from the single ventral nerve cord of Annelida. Cephalopods show the highest development with a fused brain.

Q19. Answer: (D) Echinus

Echinus is the sea urchin (class Echinoidea). Asterias = starfish (Asteroidea); Cucumaria = sea cucumber (Holothuroidea); Ophiura = brittle star (Ophiuroidea).

Q20. Answer: (B) Starfish

Bipinnaria is the free-swimming, bilaterally symmetrical larva of starfish (Asterias). Sea urchins have pluteus larva; sea cucumbers have auricularia larva — these are common NEET-level traps.

Q21. Answer: (C) Straight, complete, extending from mouth to anus

The alimentary canal of Balanoglossus is a straight, complete tube running from the anterior mouth to the posterior anus. It is not sac-like (no blind end), not incomplete, and not segmented — segmentation is an annelid feature.

Q22. Answer: (B) It is a hemichordate with stomochord and tripartite body

Saccoglossus is a valid hemichordate exemplar with proboscis-collar-trunk body division and a stomochord. The statement that it lacks stomochord is incorrect — that is the key trap in this question.

Q23. Answer: (D) Urochordata, Cephalochordata, Vertebrata

Chordata is divided into three subphyla: Urochordata (tunicates), Cephalochordata (lancelets), and Vertebrata. Hemichordata and Echinodermata are separate phyla — they are deuterostomes but not true chordates.

Q24. Answer: (A) Mammalia

Sebaceous glands are integumentary glands unique to mammals, associated with hair follicles. Aves have only the uropygial (preen) gland. Reptilian skin is dry and scale-covered with no functional skin glands. Amphibia have mucus and poison glands, not sebaceous glands.

Phylum hallmarks and examples

Phylum or class	Hallmark and examples
Porifera	Cellular level; canal system with choanocytes; spicules — Sycon, Spongilla, Euspongia
Cnidaria	Cnidoblasts; polyp and medusa; metagenesis in Obelia — Physalia, Adamsia, Pennatula, Gorgonia, Meandrina
Ctenophora	Eight comb plates; bioluminescence — Pleurobrachia, Ctenoplana
Platyhelminthes	Dorsoventrally flat; acoelomate; flame cells — Taenia, Fasciola
Aschelminthes	Pseudocoelomate; sexes separate — Ascaris, Wuchereria, Ancylostoma
Annelida	Metameric segmentation; nephridia — Nereis, Pheretima, Hirudinaria

Arthropoda	Largest phylum; jointed appendages; chitinous exoskeleton; Malpighian tubules — Apis, Bombyx, Laccifer, Anopheles, Limulus (living fossil)
Mollusca	Second largest phylum; mantle and radula — Pila, Pinctada, Sepia, Loligo, Octopus
Echinodermata	Water vascular system; adults radial, larvae bilateral — Asterias, Echinus, Antedon, Cucumaria, Ophiura
Hemichordata	Proboscis, collar, trunk; stomochord — Balanoglossus, Saccoglossus
Chordata	Notochord, dorsal hollow nerve cord, pharyngeal gill slits — Urochordata (Ascidia, Salpa, Doliolum), Cephalochordata (Branchiostoma)
Cyclostomata	Jawless — Petromyzon, Myxine
Chondrichthyes	Cartilaginous endoskeleton — Scoliodon, Pristis, Trygon, Torpedo
Osteichthyes	Bony skeleton; air bladder — Exocoetus, Hippocampus, Labeo, Catla
Amphibia	Three-chambered heart — Bufo, Rana, Ichthyophis
Reptilia	Dry scaly skin; crocodiles have a four-chambered heart — Chelone, Testudo, Naja, Vipera
Aves	Pneumatic bones; crop and gizzard — Corvus, Columba, Psittacula
Mammalia	Mammary glands, hair — Ornithorhynchus (oviparous), Macropus, Pteropus, Balaenoptera