1. Which one of the following features is true for all animals?
A. Presence of a backbone
B. Triploblastic organization
C. Heterotrophic nutrition
D. Bilateral symmetry

✅Answer: C. Heterotrophic nutrition

Explanation:
All animals are heterotrophs (cannot synthesize food); other features vary between phyla.

2. Which of the following organisms shows radial symmetry in the adult stage only?
A. Earthworm
B. Hydra
C. Starfish
D. Planaria

✅Answer: C. Starfish

Explanation:
Echinoderms (like starfish) show radial symmetry as adults, but bilateral symmetry in larval stages.

3. Diploblastic animals have:
A. Ectoderm and mesoderm only
B. Ectoderm and endoderm only
C. Endoderm and mesoderm only
D. All three germ layers

✅Answer: B. Ectoderm and endoderm only

Explanation:
Diploblastic animals (e.g., Cnidaria) have only two germ layers — ectoderm and endoderm, with mesoglea in between.

4. Match the following correctly:

Animal Group Body Cavity Type

A. Annelida 1. Pseudocoelom
B. Platyhelminthes 2. Acoelom
C. Aschelminthes 3. True coelom

Options:
A. A–3, B–2, C–1
B. A–2, B–1, C–3
C. A–1, B–3, C–2
D. A–2, B–3, C–1

✅Answer: A. A–3, B–2, C–1

Explanation:

Annelida – true coelom

Platyhelminthes – acoelomate

Aschelminthes (Nematoda) – pseudocoelomate

5. The canal system and spicules are characteristic of:
A. Coelenterata
B. Mollusca
C. Porifera
D. Echinodermata

✅Answer: C. Porifera

Explanation:
Sponges (phylum Porifera) possess a canal system and spicules (calcareous or siliceous) for structure and defense.

6. Which of the following is a correct match of animal and symmetry?
A. Hydra – Bilateral symmetry
B. Starfish – Radial symmetry in larva
C. Earthworm – Radial symmetry
D. Ctenophore – Biradial symmetry

✅Answer: D. Ctenophore – Biradial symmetry

Explanation:
Ctenophores exhibit biradial symmetry, which is intermediate between radial and bilateral.

7. The characteristic feature of Cnidarians is the presence of:
A. Nematocysts on mesoglea
B. Nematocysts on ectoderm
C. Choanocytes
D. Cilia for locomotion

✅Answer: B. Nematocysts on ectoderm

Explanation:
Cnidarians (e.g., Hydra, jellyfish) have stinging cells (nematocysts) located on ectodermal tentacles.

8. Which of the following is not a feature of Porifera?
A. Cellular level of organization
B. Choanocytes
C. Radial symmetry
D. Diploblastic germ layer

✅Answer: D. Diploblastic germ layer

Explanation:
Porifera do not have true germ layers (no gastrulation) — they have a cellular level of organization.

9. Which of the following exhibits tissue level of organization?
A. Amoeba
B. Sponges
C. Hydra
D. Roundworm

✅Answer: C. Hydra

Explanation:
Coelenterates (Cnidaria) like Hydra show tissue level of organization — groups of similar cells perform functions.

10. Which of these organisms lacks a digestive cavity?
A. Taenia
B. Pheretima
C. Aurelia
D. Ctenoplana

✅Answer: A. Taenia

Explanation:
Flatworms like Taenia (tapeworm) are endoparasites and absorb nutrients directly — no digestive cavity present.

11. Which of the following is a hermaphroditic flatworm that can regenerate from body fragments?
A. Taenia solium
B. Planaria
C. Ascaris
D. Wuchereria

✅Answer: B. Planaria

Explanation:
Planaria is a free-living flatworm capable of regeneration and is hermaphroditic (has both male and female reproductive organs).

12. Which one of the following is a dioecious animal with pseudocoelom and complete digestive tract?
A. Planaria
B. Earthworm
C. Ascaris
D. Leech

✅Answer: C. Ascaris

Explanation:
Ascaris is a roundworm (Nematoda) — dioecious, has pseudocoelom, and a complete alimentary canal.

13. What is the major excretory organ in Annelida (e.g., earthworm)?

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

✅Answer: D. Nephridia

Explanation:
Annelids like earthworms excrete nitrogenous waste through nephridia.

14. In which animal is closed circulatory system found?
A. Cockroach
B. Prawn
C. Earthworm
D. Housefly

✅Answer: C. Earthworm

Explanation:
Annelids like earthworms have a closed circulatory system — blood remains within vessels.

15. Match the following animals with their unique feature:

Animal	Unique Feature
A. Ascaris	1. Pseudocoelom
B. Earthworm	2. Closed blood circulation
C. Leech	3. Suckers and segments

Options:
A. A–1, B–2, C–3
B. A–2, B–1, C–3
C. A–3, B–1, C–2
D. A–1, B–3, C–2

✅Answer: A. A–1, B–2, C–3

Explanation:

Correct match:

Ascaris – pseudocoelom

Earthworm – closed circulation

Leech – suckers and segmentation

16. Which one of the following is correct about the body of Arthropods?
A. Unsegmented body, soft cuticle
B. Segmented body, exoskeleton of chitin
C. Unsegmented body, muscular foot
D. Segmented body, calcareous exoskeleton

✅Answer: B. Segmented body, exoskeleton of chitin

Explanation:
Arthropods (e.g., insects, crustaceans) have segmented bodies with a chitinous exoskeleton.

17. In cockroach, respiration occurs through:
A. Skin
B. Lungs
C. Tracheal tubes
D. Gills

✅Answer: C. Tracheal tubes

Explanation:
Cockroach breathes via a network of tracheae and spiracles, directly supplying oxygen to tissues.

18. Which of the following has green glands for excretion?
A. Earthworm
B. Prawn
C. Cockroach
D. Starfish

✅Answer: B. Prawn

Explanation:
Crustaceans like prawns have green glands (antennal glands) for excretion.

19. Which arthropod is viviparous?
A. Scorpion
B. Prawn
C. Butterfly
D. Crab

✅Answer: A. Scorpion

Explanation:
Scorpions are viviparous (give birth to young ones); most arthropods are oviparous.

20. Identify the incorrect statement about Annelids:
A. They have nephridia for excretion
B. Their body is metamerically segmented
C. They show open circulatory system
D. They have circular and longitudinal muscles

✅Answer: C. They show open circulatory system

Explanation:
Annelids have a closed circulatory system. The other features are true.

21. The feature common to molluscs and annelids is:
A. Jointed legs
B. Metameric segmentation
C. Nephridia
D. Radial symmetry

✅Answer: C. Nephridia

Explanation:
Nephridia are excretory organs common to both annelids and molluscs, though segmentation is lost in molluscs.

22. In molluscs, the structure that secretes the shell is called the:
A. Mantle
B. Gill
C. Foot
D. Radula

✅Answer: A. Mantle

Explanation:
The mantle in molluscs is a soft layer that secretes calcium carbonate shell.

23. Which of the following animals is bilaterally symmetrical and unsegmented with a muscular foot?
A. Sea urchin
B. Octopus
C. Cockroach
D. Earthworm

✅Answer: B. Octopus

Explanation:
Octopus is a mollusc — bilateral, unsegmented, and uses a muscular foot modified as arms.

24. The radula is found in:
A. Echinodermata
B. Mollusca
C. Arthropoda
D. Hemichordata

✅Answer: B. Mollusca

Explanation:
Radula is a tooth-like rasping organ in molluscs used for feeding (except in bivalves).

25. Which of these features is exclusive to Echinoderms?
A. Exoskeleton of chitin
B. Jointed legs
C. Water vascular system
D. Radula

✅Answer: C. Water vascular system

Explanation:
Echinoderms like starfish possess a unique water vascular system used in movement, feeding, and respiration.

26. Which of the following animals has no excretory organ and a calcareous endoskeleton?
A. Earthworm
B. Sea cucumber
C. Octopus
D. Cockroach

✅Answer: B. Sea cucumber

Explanation:
Echinoderms (e.g., sea cucumber) lack excretory organs and have calcareous endoskeletons made of ossicles.

27. Match the following:

Animal Key Feature

A. Pila 1. Gills and mantle
B. Asterias 2. Tube feet, radial symmetry
C. Balanoglossus 3. Proboscis and collar

Options:
A. A–1, B–2, C–3
B. A–2, B–1, C–3
C. A–3, B–1, C–2
D. A–1, B–3, C–2

✅Answer: A. A–1, B–2, C–3

Explanation:

Pila (snail) – has gills and mantle

Asterias (starfish) – has tube feet, radial symmetry

Balanoglossus – shows proboscis and collar (Hemichordata)

28. The larval stage of echinoderms is:
A. Radially symmetrical
B. Bilaterally symmetrical
C. Asymmetrical
D. Segmented

✅Answer: B. Bilaterally symmetrical

Explanation:
Though adult echinoderms are radial, their larvae are bilaterally symmetrical, suggesting evolution from bilateral ancestors.

29. The notochord in Hemichordata is present in:
A. Collar
B. Proboscis
C. Trunk
D. Absent

✅Answer: B. Proboscis

Explanation:
In Hemichordata, the notochord-like structure (stomochord) is found in the proboscis region.

30. Which of the following is NOT a mollusc?
A. Chiton
B. Dentalium
C. Antedon
D. Octopus

✅Answer: C. Antedon

Explanation:
Antedon is a crinoid echinoderm, not a mollusc. All others belong to Mollusca.

31. Which of the following combinations of features are found in all chordates?
A. Gill slits, vertebral column, notochord
B. Notochord, dorsal nerve cord, post-anal tail
C. Notochord, closed circulation, gills
D. Gills, vertebral column, paired limbs

✅Answer: B. Notochord, dorsal nerve cord, post-anal tail

Explanation:
These three features are the hallmarks of all chordates, at least in some embryonic stage.

32. In urochordates, the chordate features are present in:
A. Adult only
B. Larva only
C. Both adult and larva
D. Lost in larva

✅Answer: B. Larva only

Explanation:
Urochordates (e.g., Ascidia) show notochord, dorsal nerve cord, and tail in larval stage only. Adults are sessile and degenerate.

33. Branchiostoma (Amphioxus) is a:
A. Urochordate
B. Cephalochordate
C. Vertebrate
D. Hemichordate

✅Answer: B. Cephalochordate

Explanation:
Branchiostoma, a cephalochordate, retains all chordate features throughout life but lacks vertebral column.

34. Which of the following lacks jaws?
A. Shark
B. Rohu

C. Hagfish
D. Catla

✅Answer: C. Hagfish

Explanation:
Cyclostomes (hagfish, lamprey) are jawless fishes belonging to superclass Agnatha.

35. The air bladder in bony fishes (Osteichthyes) functions mainly in:
A. Digestion
B. Respiration
C. Sound production
D. Buoyancy regulation

✅Answer: D. Buoyancy regulation

Explanation:
Air bladder helps maintain neutral buoyancy in water.

36. Amphibians are characterized by all EXCEPT:
A. Moist skin without scales
B. Tympanum present
C. Gills in adults
D. Three-chambered heart

✅Answer: C. Gills in adults

Explanation:
Adult amphibians breathe through lungs and skin; gills are usually in larval stages.

37. Which is not a feature of reptiles?
A. Dry, keratinized scales
B. Three-chambered heart
C. Internal fertilization
D. External ears

✅Answer: D. External ears

Explanation:
Reptiles lack external ears; they have tympanum instead. All other features are present.

38. Match the following vertebrate classes with examples:

Class Example

A. Amphibia 1. Rana
B. Reptilia 2. Chameleon
C. Aves 3. Neophron
D. Mammalia 4. Ornithorhynchus

Options:
A. A–1, B–2, C–3, D–4
B. A–2, B–1, C–4, D–3
C. A–3, B–4, C–2, D–1
D. A–4, B–3, C–1, D–2

✅Answer: A. A–1, B–2, C–3, D–4

Explanation:

Amphibia: Rana (frog)

Reptilia: Chameleon

Aves: Neophron (vulture)

Mammalia: Ornithorhynchus (platypus)

39. Which of the following features is unique to mammals?
A. Bony endoskeleton
B. Four-chambered heart
C. Mammary glands
D. Internal fertilization

✅Answer: C. Mammary glands

Explanation:
Mammary glands (milk secretion) are unique to mammals.

40. Birds are characterized by all of the following EXCEPT:
A. Pneumatic bones
B. Mammary glands
C. Warm-bloodedness
D. Beak without teeth

✅Answer: B. Mammary glands

Explanation:
Birds lack mammary glands. They are oviparous, warm-blooded, and have pneumatic bones.

41. Which vertebrate group shows the presence of single occipital condyle and 12 pairs of cranial nerves?
A. Aves
B. Mammals
C. Amphibians
D. Reptiles

✅Answer: D. Reptiles

Explanation:
Reptiles have 12 cranial nerves and a single occipital condyle (like amphibians). Mammals have two.

42. Which of the following is an egg-laying mammal?
A. Kangaroo
B. Dolphin
C. Platypus
D. Bat

✅Answer: C. Platypus

Explanation:
Monotremes (e.g., Platypus) are egg-laying mammals found in Australia.

43. Choose the correct set of features for class Aves:
A. Mammary glands, diaphragm, hair
B. Pneumatic bones, feathers, four-chambered heart
C. Moist skin, aquatic larva, tympanum
D. Gills, lateral line, operculum

✅Answer: B. Pneumatic bones, feathers, four-chambered heart

Explanation:
Birds have hollow bones (pneumatic), feathers, and complete 4-chambered hearts.

44. Which statement is incorrect regarding mammals?
A. Have diaphragm
B. RBCs are nucleated
C. Are warm-blooded
D. Internal fertilization

✅Answer: B. RBCs are nucleated

Explanation:
Mammalian RBCs are non-nucleated, unlike those of birds or amphibians.

45. Which of the following has poison fangs and heat-sensitive pits?
A. Chameleon
B. Crocodile
C. Pit viper
D. Toad

✅Answer: C. Pit viper

Explanation:
Pit vipers are venomous snakes with infrared-sensitive pits for detecting warm-blooded prey.