🐾 ANIMAL CLASSIFICATION – QUESTION & ANSWER NOTES

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1. What is animal classification?

Answer:
Animal classification is the **scientific arrangement of animals into groups and subgroups** based on their **similarities and differences** in body structure, organization, and evolution.

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2. Why is animal classification necessary?

Answer:
Animal classification is necessary because:

- It makes the study of animals **easy and systematic**
- Helps understand **evolutionary relationships**
- Helps in **proper identification and naming**
- Reduces confusion due to large diversity

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3. On what basis are animals classified?

Answer:
Animals are classified based on:

1. Level of organization
2. Body symmetry
3. Body cavity (coelom)
4. Segmentation
5. Presence or absence of notochord

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4. What is level of organization? Name its types.

Answer:
Level of organization refers to the **complexity of body structure** in animals.

Types:

- Cellular level (Porifera)
- Tissue level (Coelenterata)
- Organ level
- Organ-system level

5. What is body symmetry? Name its types.

Answer:
Body symmetry refers to the **arrangement of body parts around a central axis**.

Types:

- Asymmetrical – No symmetry (Sponges)
- Radial symmetry – Body parts arranged around a central axis (Starfish)
- Bilateral symmetry – Body divided into two equal halves (Earthworm)

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6. What is coelom? Name its types.

Answer:
Coelom is a **fluid-filled body cavity between body wall and digestive tract**.

Types:

- Acoelomate – No body cavity (Platyhelminthes)
- Pseudocoelomate – False body cavity (Nematoda)
- Coelomate – True body cavity (Annelida onwards)

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7. What is segmentation?

Answer:
Segmentation is the **division of body into repeated segments**.

Example:

- Present in Earthworm (Annelida)
- Absent in Roundworm (Nematoda)

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8. What is notochord?

Answer:
Notochord is a **rod-like flexible structure** present along the dorsal side of the body in chordates, at least during embryonic stage.

9. Differentiate between chordates and non-chordates.

Feature	Chordates	Non-chordates
Notochord	Present	Absent
Nerve cord	Dorsal, hollow	Ventral, solid
Heart	Ventral	Dorsal
Post-anal tail	Present	Absent

□ NON-CHORDATES

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10. Write characteristics of Phylum Porifera.

Answer:

- Simplest multicellular animals
- Body full of pores
- Cellular level of organization
- Mostly marine
- Asymmetrical body

Examples: Sycon, Spongilla

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11. Write characteristics of Phylum Coelenterata.

Answer:

- Radial symmetry
- Diploblastic
- Tissue-level organization
- Presence of stinging cells (cnidoblasts)
- Gastrovascular cavity present

Examples: Hydra, Jellyfish

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12. Write characteristics of Phylum Platyhelminthes.

Answer:

- Flat, ribbon-like body
- Bilateral symmetry

- Triploblastic
- Acoelomate
- Mostly parasitic

Examples: Tapeworm, Liver fluke

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13. Write characteristics of Phylum Nematoda.

Answer:

- Cylindrical, unsegmented body
- Bilateral symmetry
- Pseudocoelom present
- Complete digestive system
- Many are parasites

Examples: Ascaris, Hookworm

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14. Write characteristics of Phylum Annelida.

Answer:

- Segmented body
- Bilateral symmetry
- True coelom present
- Closed circulatory system
- Organ-system level organization

Examples: Earthworm, Leech

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15. Write characteristics of Phylum Arthropoda.

Answer:

- Largest phylum
- Jointed appendages
- Chitinous exoskeleton
- Open circulatory system
- Body segmented

Examples: Cockroach, Butterfly, Crab

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16. Write characteristics of Phylum Mollusca.

Answer:

- Soft, unsegmented body
- Body divided into head, foot, visceral mass
- Shell present in most
- Open circulatory system

Examples: Snail, Octopus

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17. Write characteristics of Phylum Echinodermata.

Answer:

- Spiny skin
- Radial symmetry in adults
- Endoskeleton present
- Water vascular system present
- Marine animals

Examples: Starfish, Sea urchin

● CHORDATES

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18. State general characteristics of chordates.

Answer:

- Notochord present
- Dorsal hollow nerve cord
- Pharyngeal gill slits
- Post-anal tail

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19. Write characteristics of Pisces.

Answer:

- Aquatic animals
- Gills for respiration
- Fins for movement
- Cold-blooded
- Scales present

Examples: Shark, Rohu

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20. Write characteristics of Amphibia.

Answer:

- Live on land and water
- Moist skin
- Respiration through lungs and skin
- Cold-blooded
- External fertilization

Examples: Frog, Toad

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21. Write characteristics of Reptilia.

Answer:

- Dry, scaly skin
- Lungs for respiration
- Cold-blooded
- Internal fertilization

Examples: Snake, Lizard

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22. Write characteristics of Aves.

Answer:

- Body covered with feathers
- Forelimbs modified into wings
- Warm-blooded
- Four-chambered heart
- Oviparous

Examples: Pigeon, Sparrow

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23. Write characteristics of Mammalia.

Answer:

- Mammary glands present
- Hair on body
- Warm-blooded
- Mostly viviparous
- Well-developed brain

Examples: Human, Cow, Dog

⭐ BOARD EXAM FOCUS

✓ Learn **characteristics + examples**
✓ Q&A format suits **2, 3, 4, and 5 mark questions**
✓ Diagrams of **Porifera, Arthropoda, Frog, Bird** are important