

2. STRUCTURAL ORGANISATION IN ANIMALS

(3 X 2) + (1 X 4) = 10 Marks

ROOT POINTS

1. **Structural organisation** deals with structures, functions and types of cells, tissues of animals.
2. Development of tissues is a major event in evolution.
3. **Animal tissues are four types:** (i) Epithelial (ii) Connective (iii) Muscular (iv) Nerve tissue.
4. **Epithelial tissue** helps in secretion, protection, transport etc.,
5. **Connective tissue** binds and supports other tissues and organs.
6. **Muscular tissue** helps in various type of movements both voluntary and involuntary.
7. **Nerve tissue** brings coordination of various organs and helps in survival of organism.
8. **Cephalization** is the formation of nerve and sensory cells at the anterior part of the body.
9. 'Tube-within-a-tube' organisation is first formed in **Nematoda**. [IPE]
10. The organs like kidneys in vertebrates are covered by the parietal peritoneum only on the ventral side. The organs lined by it are called **retroperitoneal organs**. [IPE]
11. **Mast cells** secrete heparin, histamine, bradykinin and serotonin. [IPE]
12. **Tendons** connect skeletal muscles to the bone. [IPE]
13. **Ligaments** connect one bone with another bone. [IPE]
14. '**Fibrous cartilage**' is the strongest cartilage. [IPE]
15. **Haversian system** is a unit of compact bone. It consists of (i) Haversian canal (ii) Concentric bone lamellae (iii) lacunae (iv) canaliculi (v) Volkman's canals. [IPE]
16. **Osteon:** In a dense bone, a Haversian canal and the surrounding lamellae and lacunae are collectively called Osteon (Haversian system). [IPE]
17. **Sesamoid bone** is a tendon bone. It is formed by ossification in tendon. **Ex:** Patella (knee cap)
18. The percentage of volume of RBC in total volume of blood is **Haematocrit value**.
19. **Cardiac muscle** is the heart muscle (myocardium). [IPE]
20. **Cardiac muscle** is highly resistant to fatigue because it has numerous sarcosomes, many molecules of myoglobin and rich supply of blood for continuous aerobic respiration.
21. The muscles which are attached to skeletal structures are called **skeletal muscles**. [IPE]

FRUITY Qs OF IPE**(3 x 2) + (1 x 4) = 10 Marks**

1. What is cephalization? How is it useful to its possessors?
2. Why is the true coelom considered a secondary body cavity?
3. What are retroperitoneal organs?
4. Mention any two substances secreted by mast cells and their functions.
5. Distinguish between a tendon and a ligament.
6. Define osteon.
7. What is the haematocrit value?
8. "Cardiac muscle is highly resistant to fatigue". Justify.
9. Describe the three types of cartilage.
10. Explain Haversian system.
11. Describe the structure of a Skeletal Muscle.
12. Describe the structure of a multipolar neuron.