

CBSE TEST PAPER-03
CLASS - XI BIOLOGY (STRUCTURE ORGANISATION IN ANIMALS)

General Instruction:

- All questions are compulsory.
 - Question No. 1 to 4 carry one marks each. Question No. 5 to 9 carry two marks each. Question No. 10 to 11 carry three marks each.
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1. Name the type of epithelium lines the buccal cavity.
2. Why muscle cells are usually called muscle fibres?
3. Define glands.
4. How many spermathecae are present in earthworms?
5. Distinguish between smooth & striated muscles.
6. What are the functions of mast cells?
7. How can a male frog be distinguished from a female frog?
8. Give reason why earthworms are known as "friends of farmers".
9. Write short note on adipose tissues.
10. Describe briefly the structure of voluntary muscles.
11. How does blood gets coagulated on coming out from an injured vessel? How coagulation is normally prevented uninjured vessels ?

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[ANSWERS]

1. Stratified squamous epithelium

2. Muscle cells are usually called muscle fibres because muscle cells are thin and elongated which consists of many cells that contract when stimulated and can produce motion.

3. A gland is an organ in the body which produces chemical substances for the body to use or get rid of.

4. Four pairs of spermathecae are found in each of 6 to 9 segments of earthworm

5.

SMOOTH MUSCLES	STRIATED MUSCLES
i) They are called involuntary muscles.	i) they are called voluntary muscles
ii) They are found in hollow organs	ii) They are mostly attached to bones by tendons
iii) They are uninucleate.	iii) They are multinucleate.
iv) They do not show any striation	iv) They show striated appearance i.e. alternate light & dark bands.

6. Mast cells are granular large irregularly shaped cells present in areolar connective tissue:

a) They store inflammation producing substance histamine. When histamine is released inflammation is caused due to some reason.

b) They also release heparin which prevent activation of prothrombin this preventing coagulation of blood.

7. The male frogs may be distinguished by presence of sound producing vocal sacs. They also

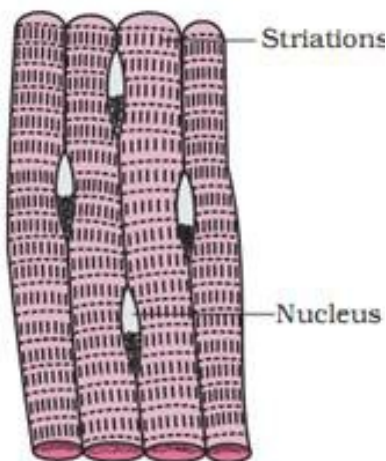
has a copulatory pad on the first digit of the forelimbs. Vocal sacs and copulatory pads are absent in female frogs.

8. Earthworms are called as farmers friends because of the following reasons:

- 1.They lives in burrows in the upper layers of the soil.
- 2.They help in bringing the fertile soil upwards and upper used soil to the lower level
- 3.Worm castings contains nitrogenous wastes like urea which adds fertility to the soil.
- 4.Aeration of the soil is possible by the burrowing activity.

9. It is a specialized form of aerolar tissue where it contains mainly fat cells or adipocytes. The matrix contains fibroblasts, macrophages, collagen fibres & elastin fibres. This tissue lies beneath the skin, around kidney and in mesentery & bone marrow. It synthesizes, stores and mebabolises fat and forms insulating layer beneath the skin.

10. A voluntary muscle is a bundle of numerous striated muscle fibres. Each fibres is long, unbranched measuring 40 mm in length & 20ym in thickness. Each fibre is enclosed in a membrane called sarcolemma & its cytoplasm is called sarcoplasm. The sarcoplasm contains many myofibrils that are long, thin, unbranched & cross striated. Each myofibril consists of alternating thick A & light I-band. A band is formed of protein myosin & I-band with actin protein. The thick filament bands lie parallel to one another. The thin filament extends between them upto a considerable distance in an orderly manner. At the center of the I-band is a fine, dense, dark, Z-line. Each segment of myofibril from one Z-band to the next functions as a contractile unit & is called sarcomere.



11. When a blood vessel is injured & blood comes out of it, the thrombocytes clump together, break & release the coagulation promoting substances called thromboplastin.

Thromboplastin helps in the formation of enzyme thrombokinase. This enzyme thrombokinase hydrolyses prothrombin in the plasma into thrombin Ca^{2+} ions are needed for both activation & functioning of thrombin. Thrombin catalyses the hydrolysis of soluble fibrinogen in the plasma into insoluble fibrin. The fibrin precipitates as a network of fibres & traps many blood cells to form a red solid mass called blood clot. The clot seals the wound in the blood vessel to stop bleeding.

However in uninjured tissues & blood vessels don't release thromboplastin. That's why coagulation is prevented in an uninjured vessel.