

MISSION M.B.B.S

Date: 10/08/2022

Subject: ZOOLOGY

Topic : ANIMAL KINGDOM L8

Class: Standard XI

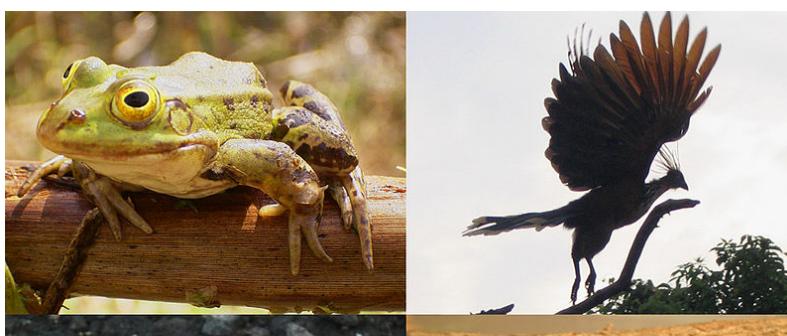
Instructions:

A

1. Which among the following is true for a tetrapod?

- A. Four limbs (or had ancestors that had four limbs)
- B. Has internal gills
- C. Do not have a vertebral column
- D. Do not have well developed sense organs

Tetrapoda is derived from Greek word meaning 'four foot'. It includes the vertebrate animals that have four limbs or had ancestors that had four limbs. It includes amphibians, reptiles (including dinosaurs), birds (aves) and mammals. Exceptions are snakes (reptile) and *Ichthyophis* (amphibian) which are limbless.



Tetrapods

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2. Which among the following is a poikilotherm?

- A. Whale
- B. Tortoise
- C. Fowl
- D. *Echidna*

A cold blooded animal is called a poikilotherm. All amphibians and reptiles are cold blooded. Their body temperature is influenced by the temperature of the environment. Tortoise is a reptile and hence cold blooded. The rest (whale, *Echidna* and fowl) are all warm blooded, and hence, they are able to maintain their temperature constant.

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3. Identify the amphibian which has gills in its adult stage.

- A. Toads
- B. Aquatic frogs
- C. Limbless amphibian
- D. Mud puppy

Mud puppies are a type of salamander that have bushy, red external gills. These gills grow in the larval stages and are never lost. Skin and lung respiration is not sufficient for them and hence, they rely on feathery external gills for gas exchange.

Toads and the aquatic frogs have gills in their tadpole stage but later get replaced by lungs. The limbless amphibians, Caecilians/*Ichthyophis* breathe with the help of skin and lungs.



Common

mudpuppy

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4. Tympanum represents the ear in

- A. man
- B. dog
- C. elephants
- D. salamander

Amphibians such as the salamander, do not have an external ear. Their ears are represented by the tympanum or the eardrum.

In the case of man, dog and elephants, the ear comprises an external ear, a middle ear and an inner ear.

Tympanum of a

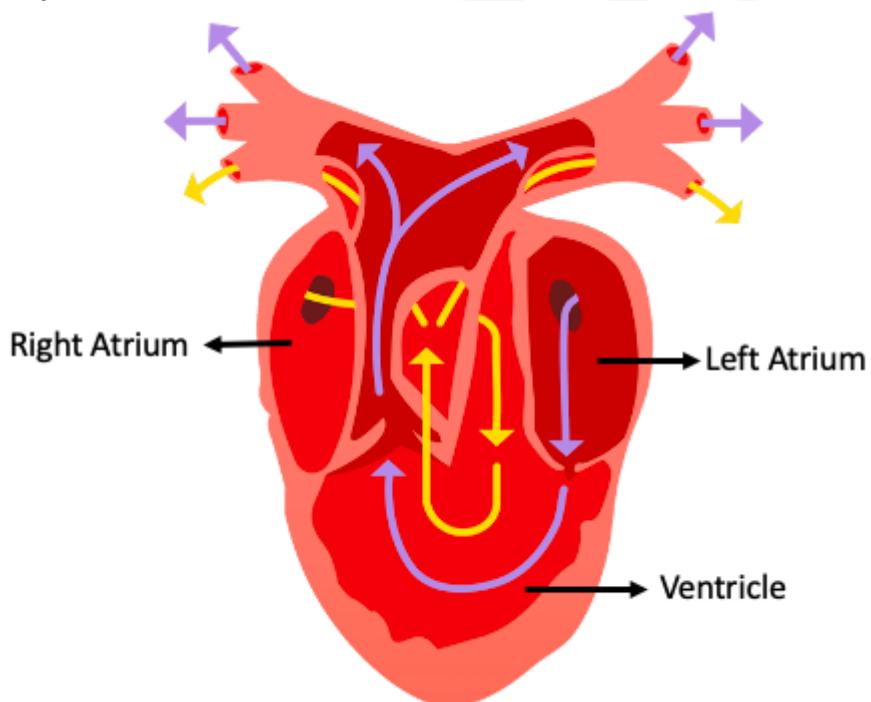
frog

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5. The heart in amphibians has

- A. two atria and two ventricles
- B. one atrium and two ventricles
- C. two atria and one ventricle
- D. one atria and one ventricle

Three chambered hearts are seen in all amphibians and most reptiles. There are two atria and one ventricle. There are separate blood vessels that carry oxygenated blood to the body and vessels that bring the deoxygenated blood to the right atrium. Blood from the right atrium is pumped to the lungs and cutaneous skin for gaseous exchange. The oxygenated blood from the cutaneous skin and lungs enters the left atrium and then the ventricle. The oxygenated blood is then pumped to the whole body.



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6. Nictitating membrane is useful to frog in

- A. far sight
- B. short sight
- C. covering and protecting eye from water and mud
- D. covering and protecting eyelids from mud and other particles

Apart from the eyelid, a transparent membrane called the nictitating membrane is present in amphibians such as frogs. It helps in protecting the eyes of the amphibians from water and mud while swimming in water. It also helps in keeping the eyes moist when the frog is on land.

7. Which among the following reptiles has a four chambered heart?

- A. King Cobra
- B. Turtle
- C. *Sphenodon*
- D. Crocodile

Most of the members of class Reptilia (like king cobra, turtle, *Sphenodon*) have three chambered hearts with an incomplete septum in the ventricle. In crocodiles, the septum is complete resulting in the formation of a four chambered heart. Hence, it is an exception in reptiles with a four chambered heart.

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8. Which among the following statements are true?

1. Amphibians are warmblooded animals
2. In reptilians, the toes end in claws
3. Reptiles are poikilotherms
4. Amphibians are found on both land and water

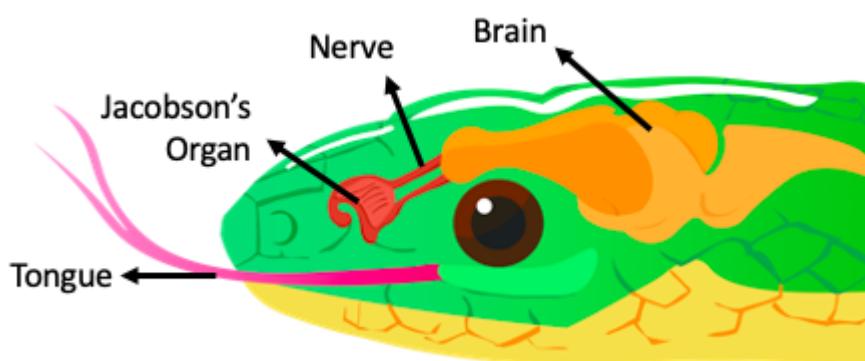
- A. 1, 2, 3
- B. 1, 3, 4
- C. 2, 3, 4
- D. 1, 2, 4

Amphibians are cold blooded animals (poikilotherms), living in both land and water. They are unable to maintain a constant temperature. Their temperature is influenced by the environment. Reptiles are also cold blooded (poikilotherms) and their digits (toes) end in claws.

9. Jacobson's organ is related to

- A. taste
- B. smell
- C. sight
- D. touch

Jacobson's organ is found in amphibians, reptiles and many mammals. This is a mass of specialized cells which are responsible for olfaction or sense of smell. The patch of specialised sensory cells can detect heavy moisture borne particles.



Jacobson's organ of reptile

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10. The glands present in the skin of the frog are

- A. sweat and mammary
- B. sweat and sebaceous
- C. sweat and mucous
- D. mucous and poisonous

There are two kinds of glands present in the skin of the frog, namely the mucus and the granular glands. The mucus glands secrete mucus which keeps the skin moist while the granular glands secrete poisonous substances which protect the frogs from its predators.

Sweat glands produce sweat and mammary glands produce milk. Both are commonly found in mammals, like humans.

Sebaceous glands produce oil which also helps to prevent the skin from becoming dry and helps conserve moisture. They are found in aves and mammals.