



L-4 The Nervous System

Difficult Words

- | | |
|---------------|------------------|
| 1 Cerebrum | 6 Pinna |
| 2 Cerebellum | 7 cochlea |
| 3 Medulla | 8 Optic nerve |
| 4 Neurons | 9 nasal cavity |
| 5 Spinal cord | 10 Reflex Action |

Define the terms

- 1) Cochlea - The spiral cavity of the inner ear which produces sound vibrations.
- 2) Pinna - The part of the ear that we see and can touch.
- 3) Mixed nerves - They carry messages in both directions between the brain or spinal cord and other parts of the body.
- 4) Neurons - Nerve cells that form the nerves.

Short Q/A

1. What is reflex action? Explain with the help of an example.
2. Some of our actions are not controlled by the



brain. They are very quick and are controlled by spinal cord. For example pulling your hand back from fire blinking your eyes in bright sunlight, watering of mouth on seeing our favourite food.

Q2. Why is the brain one of the most important organ of our body?

Ans2. Brain is one of the most important organs of our body because it receives messages from different parts of the body, process them and then sends instructions to different parts. Brain controls all body parts and their activities. It works like a CPU of a computer.

Q3. What will happen if the taste buds of the tongue are damaged?

Ans3. The taste buds send messages to the brain. Then the brain tells us what taste it is. Damage of these buds can affect a person's ability to taste food.

Q4. How does nose act as filter for the air we breathe in?

A4. The tiny hair inside the nose act as filter for dust particles. These hairs prevent the dust particles from entering the nose when we breathe in air.

Q5 Differentiate between sensory nerves and motor nerves.

A5 Sensory nerves - Nerves that carry messages from the sense organs to the brain or to the spinal cord. When brain interprets these messages, we are able to see, hear, smell, taste or feel.

Motor nerves - Nerves that carry messages from the brain or the spinal cord to the muscles or the glands. Our muscles and glands then work as instructed by these messages.

Long A/Q

Q1. Explain the main parts of the nervous system.

A1. Our nervous system is made up of three parts - the brain, the spinal cord and



the nerves.

Brain - Brain is made up of cells. It is present inside the skull which protects it from damage and injury. A human brain consists of three parts - cerebrum, cerebellum and medulla. Each part of the brain performs a specific role.

Spinal cord - It is a tube-like structure which is surrounded and protected by the vertebral column. It is made up of many nerves. All information between the brain and the rest of the body is transferred with the help of a spinal cord.

Nerves - Nerves are the messengers of the body. They are made up of nerve cells called neurones. They carry messages between the brain and other parts of the body.

What are the main functions of each part of the brain? (Cerebrum, Cerebellum, medulla) For with the help of a labelled diagram.



4.2 Human brain consists of three parts and each part of the brain performs a specific function. They are as follows.

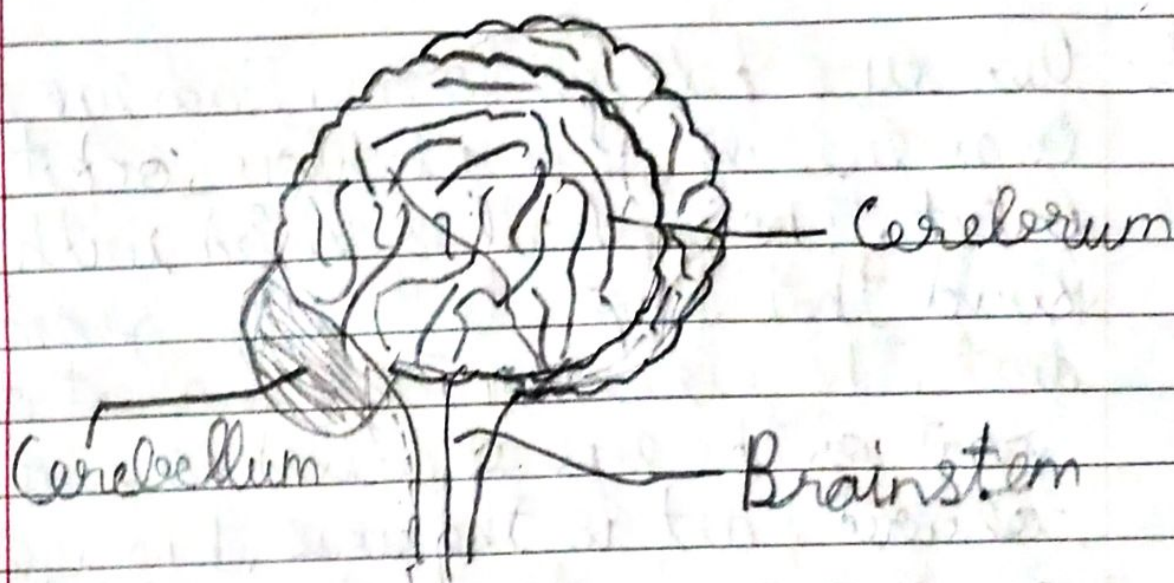
A) Cerebrum - It is the upper and the largest part of the brain. It looks like a walnut. It controls our thinking, learning ability, memory and basic intelligence. It also controls our sense organs.

B) Cerebellum - It is an egg-shaped structure situated below the cerebrum. It is the second largest part of the brain. It controls and coordinates actions of the voluntary muscles involved in activities like running, walking, dancing and standing. It maintains the balance of the body to keep us in an upright posture.

C) Medulla/Brain stem - It is a stem shaped structure and is also called as the brain stem. It connects and coordinates actions of the voluntary actions such as breathing, heartbeat, blood circulation.

etc. The medulla works even while we are asleep.

Parts of the brain



Q3 What is the spinal cord? What function does it perform in our body?

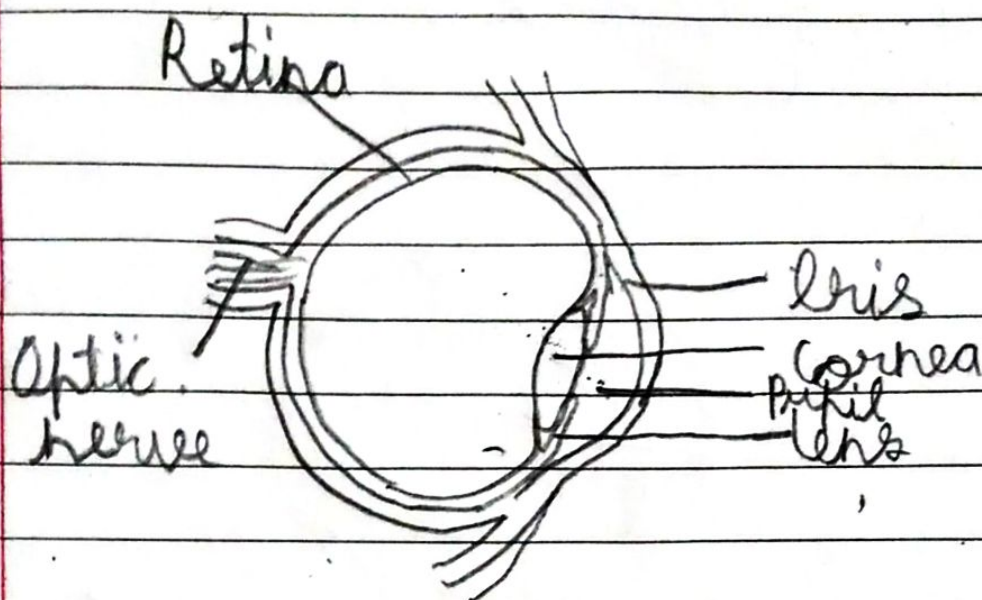
A3 Spinal cord is a bundle of nerve fibers which originates from the medulla and extends till the lower end of our backbone. It connects the brain to different parts of our body through nerves. It is surrounded and protected by the vertebral column. The main function of the spinal cord is to transfer all the information between the brain and the rest of the body. It

also controls the reflex actions of our body.

Q4. Describe the structure of the eye with the help of a labelled diagram.

A4. Our eyes help us to see. Each eye consists of an eyeball set in a hollow socket called orbit. The eyeball is filled with a fluid that protects the eye from dust. The circular transparent area in front of the eye is called cornea. The coloured part is the iris. The iris has an opening in the center called the pupil. On retina, cells in the retina are sensitive to light and colour. The optic nerve connects the eye to the brain. Messages from the eye pass to the brain through this optic nerve.

(Parts of the eye)



HOTS

Q Radha has met with an accident. Her right half of the brain has been damaged which leg and arm would be affected - right or left and why?

A Left leg and arm would be affected. An the right half of the brain controls the left side of the body and the left half of the brain controls the right side. Thus, when one side of the brain is damaged, the opposite side of the body gets affected.