

ANSWERS

Chapter 1: The Nervous System

Checkpoint 1

1. sense organs, brain
2. brain, muscles or organs
3. neurons
4. spinal cord
5. brain stem

Checkpoint 2

1. True
2. True
3. False
4. False
5. True

What I Have Learnt

I. Objective Type Questions.

- A. 1. pupil
2. four
3. oxygen
4. retina
5. Cerebellum
- B. 1. Ear
2. ~~Neurons~~ *Nerves*
3. Skin
4. Motor nerves
5. Reflex actions
- C. 1-c, 2-e, 3-a, 4-f, 5-b
- D. Across

Largest part of the brain: CEREBRUM

Sudden involuntary actions of the body in response to a thing or an event:
REFLEX ACTION

Down

Focuses the picture on the retina: LENS

Carries information from the brain to our muscles or organs and makes them move: MOTOR NERVE

The prick of a thorn: STIMULUS

The outer covering of our body: SKIN

II. Short Answer Questions.

1. The largest sense organ is skin.
2. Motor nerves carry information from the brain to our muscles or organs and make them move. Sensory nerves carry information from eyes, nose, ears, tongue and skin to the brain.
3. The five sense organs are eyes, ears, nose, tongue and skin.
4. When we have a cold, smell does not reach the special nerve cells present in the upper part of our nose and so we are not able to relish the food.
5. We can take care of our eyes by: sitting upright while reading, washing eyes with clean water, watching television from a distance, reading while facing towards the source of light and never using someone else's handkerchief.
6.
 - a. The optic nerve: The tiny nerves in the retina of eyes send the message to the optic nerve. The optic nerve carries the message to the brain.
 - b. The eyelashes: The eyelashes present on the eyelids protect the eyes from dust.
 - c. The medulla: The medulla controls the movement of involuntary muscles used in breathing, blinking of eyes, heartbeat and digestion.
 - d. The spinal cord: All the messages travel to and fro between the brain and the rest of the body through the spinal cord.
 - e. The small hairs in nostrils: Small hairs in nostrils help in filtering the air entering our body and in keeping dust particles outside.

III. Long Answer Questions.

1. Those automatic actions that we do without thinking, the reactions to sudden happenings, are called reflex actions. Like we immediately remove our hand if a thorn pricks us. Reflex actions are controlled by the spinal cord. Many accidents are avoided because of the reflex action and damage is must lesser.
2. Sensory nerves are associated with sense organs of our body. They carry information from eyes, nose, ears, tongue and skin to the brain.
Motor nerves carry information from the brain to our muscles or organs and make them move.
3. Sound waves travel into the ear canal and reach the eardrum. The eardrum passes the vibrations through the middle ear bones into the inner ear. Inside the inner ear, there are thousands of tiny hair cells. Hair cells change the vibrations into electrical signals that are sent to the brain through the hearing nerve. The brain then tells that we are hearing a sound and what that sound is.
4. Refer page 44 of the textbook.

5. a. If the taste buds of the tongue get damaged, we will not be able to recognise the taste of the food. The brain will not be able to detect what we are eating.
- b. The optic nerve is responsible for carrying the message to the brain for it to understand what we are seeing. If the optic nerve is destroyed, we will not be able to know what we are seeing.
- c. The hair inside the nostrils filter the air and prevent dust particles from entering our nose. If the hair are cut and removed, dust and unwanted things will enter the nostril and we might choke.
- d. Our brain is the centre of control in our body. It controls our whole body by sending and receiving messages through the nerves. If there is no brain, we will not be able to think, remember, feel and control the body movements.

Enrichment Activities

I. HOTS

- A. The brain is more important because without the brain the sense organs will not be able to work. The brain is the control centre without which no organs will be able to sense anything.
- B. Absence of reflex action may lead to accidents and a lot of damage.
- C. Whenever we see food, the brain informs the salivary glands to release saliva and hence, our mouth waters.
- D. With increasing age, bones and muscles become weak. The brain too starts losing control over the body. That is why Rahul's grandparents are not able to play with him.
- E. a. The fluid between the brain and the skull protects the brain from physical damage. It also provides chemical balance in the brain.
- b. The fluid inside the eyeball helps maintain its shape and promotes eye health.