

NERVOUS SYSTEM AND SENSE ORGANS (KEY)

TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)**Multiple Choice Questions**

1. c) Processing sensory information and initiating voluntary movements. The cerebrum is responsible for higher brain functions, including sensory perception, reasoning, and voluntary muscle movements.
2. b) It controls muscle movement and balance. The cerebellum plays a crucial role in coordinating voluntary movements, maintaining posture, and ensuring balance.
3. b) It makes movements smooth and fluid. The cerebellum is essential for coordinating movements, which helps ensure that they are smooth and fluid. If it is not functioning properly, it can indeed lead to jerky movements and affect posture.
4. b) It controls involuntary activities such as breathing and heartbeat. The medulla oblongata is responsible for regulating vital functions, including breathing and heart rate.
5. c) Transmitting information between the brain and the body. The spinal cord acts as a major conduit for signals between the brain and the rest of the body, facilitating communication and reflexes.
6. b) Cerebrum. The cerebrum controls the opposite side of the body due to the crossing of neural pathways. For example, the left hemisphere of the cerebrum controls the right side of the body, and vice versa.
7. b) Carry orders from the brain or spinal cord to glands and muscles for actions. Motor nerves are responsible for transmitting signals that initiate movement or action in muscles and glands.

ADVANCED LEVEL**More than One Answer Type**

8. The correct answers are a) It controls muscle movement, b) It helps maintain balance, and d) It processes sensory information.

The cerebellum is primarily involved in coordinating muscle movements, maintaining balance and posture, and processing sensory information related to movement. c) It regulates breathing is not a function of the cerebellum; that function is primarily managed by the brainstem.

9. The correct answers are a) Initiating voluntary movements, b) Transmitting information between the brain and the body, and d) Controlling reflex actions.

a) The spinal cord is involved in initiating voluntary movements through motor commands from the brain.

b) It serves as a major pathway for transmitting information between the brain and the rest of the body.

d) It controls reflex actions through reflex arcs that bypass the brain for quick responses.

10. The correct answer is a) Sensory nerves carry messages from the sense organs to the brain or spinal cord, while motor nerves carry orders from the brain or spinal cord to the concerned organs for actions. This accurately describes the distinct functions of sensory and motor nerves.

Fill In the Blanks

11. medulla oblongata.

Matching Type

12.

1. Cerebrum - C. Dome-shaped, largest part of the brain, controls all actions of the body

2. Cerebellum - A. Located below the cerebrum, responsible for muscle movement and balance

3. Medulla - B. Part of the brainstem, involved in regulating vital functions like heartbeat and breathing

Answer the Following Questions

13. The brain is often referred to as the "control center" of the body due to its role in regulating and coordinating all body actions and functions. The brain is often referred to as the "command center" of the body due to its role in controlling all body actions.

14. The primary function of the cerebrum is to 'process sensory information', 'control voluntary movements', and 'involve higher cognitive functions' such as thinking, reasoning, problem-solving, and emotions. It is responsible for activities like planning, learning, and memory, as well as controlling sensory perceptions like sight, sound, and touch.

15. Some examples of involuntary activities controlled by the medulla include:

1. Breathing: Regulating the rate and depth of respiration.
2. Heartbeat: Controlling heart rate and rhythm.
3. Blood Pressure: Modulating blood vessel diameter to regulate blood pressure.
4. Swallowing: Coordinating the swallowing reflex.
5. Vomiting: Initiating the vomiting reflex.
6. Coughing and Sneezing: Managing reflex actions to clear airways.

These activities are essential for maintaining homeostasis and supporting life without conscious effort.

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)**Multiple Choice Questions**

1. b) Cerebellum.

The cerebellum is located below the cerebrum and towards the back of the brain.

2. b) To cushion and protect the brain from injuries.

The fluid between the brain and the skull, known as cerebrospinal fluid (CSF), provides cushioning and helps protect the brain from impacts and

injury.

3. b) Cerebellum.

The cerebellum is responsible for coordinating muscle movement and maintaining balance.

4. d) Medulla.

The medulla oblongata connects the brain to the spinal cord and is part of the brainstem.

5. c) Breathing.

The medulla controls involuntary activities, including the regulation of breathing.

6. d) It coordinates reflex actions without involving the brain.

The spinal cord can process certain reflex actions through reflex arcs, allowing for quick responses without the delay of sending signals to the brain.

7. b) Sensory nerves.

Sensory nerves carry messages from the sense organs to the brain or spinal cord.

EdoS
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ADVANCED LEVEL

More than One Answer Type

8. a) Nourishing the brain cells, b) Acting as a shock absorber, and c) Protecting the brain from injuries.

The fluid between the brain and the skull, known as cerebrospinal fluid (CSF), helps nourish the brain, acts as a cushion to absorb shocks, and protects the brain from injuries. While it plays a role in maintaining a stable environment for the brain, its primary functions do not include facilitating communication within the brain.

9. a) Breathing, c) Heartbeat, and d) Blood circulation.

The medulla controls involuntary functions such as breathing, regulating heart rate, and managing blood circulation. While digestion is regulated by other parts of the brain and the autonomic nervous system, it is not directly controlled by the medulla.

10. a) Sensory nerves carry messages from the sense organs to the brain or spinal cord.
b) Motor nerves carry orders from the brain or spinal cord to the concerned organs for actions.
d) Mixed nerves carry messages to the brain as well as bring orders from the brain to the concerned organs.

Fill In the Blanks

11. vertebral column or spinal column.
12. protects

Matching Type

- 13.
1. structure connects the brain to the spinal cord - B. Brain stem
 2. another term for the medulla - C. Medulla
 3. protects the spinal cord and is made up of many nerves - A. Vertebral column

Answer the Following Questions

14. If the cerebellum is not functioning properly, body posture and movement can become 'uncoordinated' and 'jerky'. This may result in difficulties with balance, making it challenging to perform smooth, controlled movements. Individuals may experience issues such as:

- Ataxia: Lack of voluntary coordination of muscle movements.
- Tremors: Involuntary shaking or oscillation of limbs.
- Difficulty with balance: Increased risk of falling.
- Impaired fine motor skills: Challenges with tasks requiring precise movements, such as writing or buttoning clothing.

Overall, these impairments can significantly affect daily activities and overall quality of life.

15. The brain has three main parts:

1. Cerebrum: The largest part, responsible for higher brain functions such as thinking, reasoning, problem-solving, and voluntary movements.

2. **Cerebellum:** Located below the cerebrum, it coordinates muscle movements, maintains balance, and ensures smooth, fluid motions.

3. **Brainstem:** This includes the midbrain, pons, and medulla oblongata, controlling vital functions such as breathing, heartbeat, and blood pressure, and serving as a communication pathway between the brain and spinal cord.

16. The function of the vertebral column in relation to the spinal cord includes:

1. **Protection:** It encases and protects the spinal cord from physical injury.

2. **Support:** It provides structural support for the body, maintaining posture and allowing for an upright stance.

3. **Facilitating Movement:** The vertebral column allows for flexibility and movement of the torso while providing a stable structure for the attachment of muscles.

4. **Enclosing Nerves:** It creates a canal (the spinal canal) through which the spinal cord and nerve roots can pass, helping to keep them safe while allowing them to connect to the rest of the body.

Educational Operating System

SENSE ORGANS (KEY)

TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. c) Connects the eye to the brain.

The optic nerve transmits visual information from the retina to the brain, allowing for the perception of images.

2. d) Getting regular eye check-ups every six months.

Regular eye check-ups are essential for maintaining eye health and catching any potential issues early.

3. c) Pinna.

The pinna, or outer ear, collects sound waves and acts like a funnel to

direct them into the ear canal.

4. d) To transmit sound waves from the outer ear to the inner ear. The middle ear contains structures that amplify and transfer sound waves to the inner ear.

5. c) By sending messages through the olfactory nerve. The brain identifies smells through signals transmitted from the olfactory receptors in the nose to the olfactory nerve, which then relays the information to the brain for processing.

6. a) Taste buds. Taste buds cover the surface of the tongue and are responsible for identifying different tastes.

ADVANCED LEVEL

More than One Answer Type

7. The correct answers are a) Eyelids, b) Pupil, and c) Cornea. The spleen is not a part of the eye.

8. The correct answers are a) Keeping the skin clean with soap and water, b) Wearing clean clothes, and c) Drinking plenty of water and eating nutritious food. These actions contribute to overall skin health. Applying makeup regularly is not necessarily a part of skin care and can sometimes have adverse effects if not done carefully.

Fill In the Blanks

9. Pupil

10. taste buds

Matching Type

11.

1. Iris - B. Coloured circle in the eye

2. Cornea - C. Transparent circular part in the front of the eye

3. Pupil - D. Black spot in the center of the iris

4. Retina - A. Lining at the back of the eye

Answer the Following Questions

12. The main components of the eye and their functions typically include:

1. Iris: The colored part of the eye that controls the size of the pupil and regulates the amount of light entering the eye.
2. Cornea: The transparent outer layer at the front of the eye that helps focus light onto the retina.
3. Pupil: The black spot in the center of the iris that allows light to enter the eye.
4. Retina: The lining at the back of the eye that contains light-sensitive cells (photoreceptors) that convert light into electrical signals, sending them to the brain for visual processing.

These components work together to enable vision by focusing light and converting it into signals the brain can interpret.

13. The olfactory nerve plays a crucial role in the process of smelling by:

1. Transmitting Signals: It carries sensory information from the olfactory receptors in the nasal cavity to the brain.
2. Detecting Odors: When odor molecules bind to the olfactory receptors, they generate electrical signals.
3. Processing Smells: The olfactory nerve sends these signals to the olfactory bulb in the brain, where the information is processed and interpreted as specific smells.

Overall, the olfactory nerve is essential for the detection and identification of odors, contributing to the sense of smell.

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)**Multiple Choice Questions**

1. c) Controls the size of the pupil.

The iris regulates the amount of light that enters the eye by adjusting the size of the pupil.

2. c) Pupil.

The pupil is the opening in the center of the iris that allows light to enter the eye.

3. a) Outer ear, middle ear, and inner ear.

These are the three main parts of the ear, each with distinct functions in the hearing process.

4. b) Smelling and Breathing.

The primary function of the nose is to facilitate the sense of smell and to provide a passage for breathing.

5. c) Tiny hairs in the nostrils.

These tiny hairs, known as cilia, help trap dust and other particles, preventing them from entering the respiratory system.

6. b) Smelling and Breathing.

The primary function of the nose is to facilitate both the sense of smell and the process of breathing.

7. The correct answers are b) Use antiseptic and c) Clean with soap and water. Cleaning the wound with soap and water helps remove dirt and bacteria, and applying an antiseptic can further prevent infection.

ADVANCED LEVEL

More than One Answer Type

8. The recommended practices for eye care according to the passage are likely:

- a) Wash your eyes a number of times in a day with clean water.
- b) Avoid reading in moving vehicles.
- c) Maintain a straight posture while reading.
- d) Never read in dim light.

9. The recommended practices for caring for the nose include:

- a) Breathing through the nose, b) Keeping nostrils clean, c) Inhaling steam to clear a blocked nose.

These practices help maintain nasal health and improve breathing.

While avoiding spicy foods can help some individuals, it's not a universal recommendation for nasal care.

Fill In the Blanks

10. pupil
11. smell and breathe.

Matching Type

12.

1. Eyes - C. Sight
2. Ears - A. Hearing
3. Nose - D. Smell
4. Tongue - B. Taste

Answer the Following Questions

13. The passage likely suggests caring for the eyes through practices such as:

1. Washing the eyes regularly with clean water.
2. Avoiding reading in moving vehicles to prevent strain.
3. Maintaining a straight posture while reading to reduce discomfort.
4. Not reading in dim light to prevent eye strain.

These practices help maintain eye health and prevent vision problems.

14. To care for the skin and prevent infection after sustaining an injury, one should:

1. Clean the wound : Rinse the injury gently with soap and water to remove dirt and bacteria.
2. Apply an antiseptic : Use an antiseptic solution or ointment to help kill germs and reduce the risk of infection.
3. Cover the wound : Use a clean bandage or dressing to protect the injury from dirt and bacteria.
4. Change the dressing regularly : Keep the wound covered and change the dressing as needed, especially if it becomes wet or dirty.
5. Monitor for signs of infection : Watch for increased redness, swelling, warmth, or discharge, and seek medical attention if these occur.

By following these steps, one can help minimize the risk of infection and promote healing.