Section A

I. Multiple-Choice Questions

Q1. Medulla oblongata controls

A. Smelling

B. Beating of heart and respiratory movement

C. Intelligence and willpower

D. Balancing of the body

Q2. The balance of the body is controlled by

A. Spinal cord Cerebellum C. Cerebrum D. Medulla

Q3. The message that travels along a nerve in the form of a wave of chemical disturbance is called

A. Stimulus B. response C. sensation D. impulse

Q4. The central canal of the spinal cord is surrounded by an H-shaped area called

A. grey matter B. white matter

C. black matter D. silver matter

Q5. Reflex actions are the actions controlled by

A. brain B. spinal cord

B. both brain and spinal cord D. neither brain nor spinal cord

Q6. The peripheral nervous system transmits messages to and from the sense organs and is responsible for

A. involuntary actions B. reflex actions

C. autonomic actions D. voluntary actions

Q7. Which part of the nervous system controls involuntary actions such as breathing and heartbeat?

A. Cerebrum B. Cerebellum C. Medulla oblongata D. Spinal cord

Q8. The part of the nervous system that connects the brain and spinal cord is:

A. Sensory neurons B. Motor neurons C. Interneurons D. Spinal nerves

Q9. Which of the following neurons carry impulses from the body parts to the brain?

A. Motor neurons B. Sensory neurons C. Interneurons D. Reflex neurons

Q10. Which of the following is the largest part of the human brain?

A. Cerebrum
B. Cerebellum
C. Medulla oblongata
D. Hypothalamus

Q11. The spinal cord is located in which part of the body?

A. Brain B. Vertebral column C. Abdomen D. Skull

Q12. Which of the following is NOT a part of the central nervous system (CNS)?

A. Brain B. Spinal cord C. Nerves D. Cerebellum

Q13. Which of the following is NOT a part of the peripheral nervous system (PNS)?

A. Cranial nerves
B. Spinal nerves
B. Brain
D. Sensory receptors

Q14. Which of the following is the main function of the cerebellum?

A. Thinking and memory
B. Voluntary movement control
C. Balance and coordination
D. Regulation of body temperature

Q15. What is a reflex arc?

A. A path through which a stimulus is sent to the brain
B. A pathway involved in voluntary actions
C. A pathway that involves the brain, spinal cord, and muscles for involuntary responses
D. A part of the spinal cord responsible for movement

Q16. Which of the following types of neurons are involved in carrying impulses from sensory receptors to the central nervous system (CNS)?

A. Motor neurons
B. Sensory neurons
C. Interneurons
D. Reflex neurons

Q17. Which of the following is a characteristic of a reflex action?

A. It involves the brain for processing
B. It is a voluntary response
C. It is an automatic and rapid response to a stimulus

D. It requires complex thinking

Q18. Which of the following is the correct sequence of components involved in a reflex action?

A. Sensory neuron → Brain → Motor neuron
B. Sensory neuron → Spinal cord → Motor neuron
C. Motor neuron → Sensory neuron → Brain
D. Spinal cord → Motor neuron → Brain

Q19.What is the role of the cerebrum in the brain?

A. Coordinating voluntary movements
B. Maintaining balance
C. Thinking, learning, and controlling emotions
D. Regulating heartbeat

Q20. Which of the following statements about the medulla oblongata is correct?

A. It controls voluntary muscle movement
B. It regulates heart rate and respiration
C. It is involved in thinking and reasoning
D. It helps in balancing the body

Q21. What is the main function of sensory neurons?

A. To carry impulses from the brain to muscles
B. To transmit electrical impulses to the spinal cord
C. To carry impulses from the sensory organs to the brain
D. To control reflex actions

Q22.Which part of the brain is responsible for emotions, memory, and learning?

A. Medulla oblongata
B. Cerebellum
C. Cerebrum
D. Hypothalamus

Q23. What is the primary role of the spinal cord in the nervous system?

A. To process emotions
B. To connect the brain to the body

C. To regulate involuntary functions

D. To control conscious thought

Q24. What is the primary function of the motor neurons?

A. To carry impulses to the spinal cord

B. To carry impulses from the brain to the muscles and glands

C. To process information from sensory receptors

D. To control reflex actions

Q25. What does the term “synapse” refer to?

A. The junction where two neurons meet and communicate

B. The protective layer around the axon

C. The part of the neuron that carries impulses to the body

D. The cell body of a neuron

Q26. Which of the following best describes the function of the central nervous system?

A. It controls voluntary movements.

B. It connects the body to the brain.

C. It processes sensory input and controls reflexes.

D. It coordinates the immune system response.

Q27. Which of the following is the odd one out?

A. Reflex arc B. Synapse C. Impulse Nerve

Q28. The message that travels along a nerve in the form of a wave of chemical disturbance is called

A. Stimulus B. response C. sensation D. impulse

Q29. What is the role of the myelin sheath in a neuron?

A. To transmit electrical impulses

B. To protect the neuron

C. To increase the speed of nerve impulses

D. To store nutrients

II. Fill in the blanks:

1. The _____ is the control center of the nervous system.
2. The functional unit of the nervous system is called a _____.

3._____ neurons transmit electrical impulses from the spinal cord to muscles and glands.

4. The _____ is the part of the brain that controls autonomic functions like heart rate, respiration, and blood pressure.

5. The _____ is the central part of the nervous system, consisting of the brain and spinal cord.

6. The _____ is the protective covering that surrounds and insulates the axon of a neuron.

7. _____ carries both sensory and motor fibers.

perform both sensory and motor functions which is why they are known to be mixed nerves.

8. There are _____ pairs of cranial nerves.

9. There are _____ pair of spinal nerves in humans.

10. Brain is enclosed in _____.

11. _____ matter is made up of cell bodies of neurons. _____ matter is made up of nerve fibers.

12. Change in the environment that leads to change in the activity of the body is called _____.

13. A motor neuron is _____.

14. The actions that are under the control of the spinal cord are called _____.

15. The path of impulse in a reflex reaction is called _____.

16. The sense organs have special cells called _____.

17. The speed of the response in voluntary action is _____ while in reflex action it is _____.

III. Match the following:

	Colum A		Colum B
a	Nerves arise from the spinal cord	1	Cerebrum
b	Cranial and spinal nerves	2	Cerebellum
c	Nerves arise from the brain and reach the organs in the head region.	3	Myelin sheath
d	Perceive pain, sound, touch, taste and smell	4	Spinal cord
e	It has many furrows but lacks convolutions	5	Spinal nerves
f	Protected by vertebral column	6	Effector
g	Responds to stimuli after receiving impulse	7	Cranial nerves
h	Prevent the mixing of impulses in the adjacent nerve fibers	8	Peripheral Nervous system

Section B

Short Answer Question:

Q1. Name the two types of effectors

Q2. Define Synapse.

Q3. Write one important role of Receptors.

Q4. Differentiate between the following pairs of terms based on what is indicated within the brackets :

(a) Stimulus and response (definition)

(b) Motor nerve and sensory nerve (function)

(c) Cerebrum and medulla oblongata (function)

(d) Cerebrum and spinal cord (arrangement of white and grey matter)

Q5. People who have had too much alcoholic drinks have problems walking straight and driving. Which part of their brain has been affected?

Q6. Give two examples of reflex actions.

Q7. Distinguish between motor, sensory, and mixed nerves with respect to their functions.

Section C

Long Answer Questions:(Reasoning)

Q8. The brain is the control center of the body, but why do you think reflex actions happen even before the brain is involved?

Q9. If the myelin sheath around the axon of a neuron gets damaged, what effect might this have on the transmission of nerve signals?

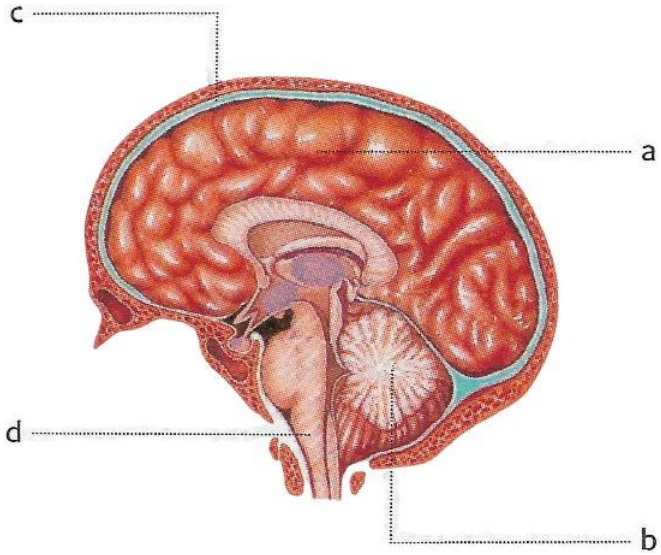
Q10. Why does the body react differently to touching a hot surface compared to stepping on a sharp object, even though both actions involve pain?

Q11. If the spinal cord is injured, why does a person lose the ability to move parts of their body below the injury site?

Q12. Why is it important for the nervous system to have both sensory and motor neurons, and how do they work together?

Q13. How does the nervous system help us react to a sudden danger, like stepping into traffic?

Section D (Picture Study)



Q14. The diagram represents the external view of the human brain. Study it and then answer the questions that follow.

1. Name the parts numbered a to d.

2. What is the main function of the parts numbered c and d?

Q15. The diagram shows a reflex arc. Study it and answer the following questions.

1. Name the parts numbered a to d.
2. Using the letters of the alphabet shown in the diagram, indicate the direction in which the impulse enters and leaves part c. X to Y or Y to X?
3. What is reflex action?
4. With the help of a flow chart, show a simple reflex action.