**CRANIAL NERVES**

They arise from the brain and form part of the peripheral nervous system. In human being, there are 12 pairs of cranial nerves confined to the head and neck.

**SPINAL CORD**

It is the posterior extension from the brain to the brain. It is enclosed in meninges and protected by the vertebral column. It is made up of grey matter and white matter. The grey matter is H—Shaped and surrounds a central canal which is filled with cerebrospinal fluid. The grey matter relays information between the sensory and motor neurons. These give its darker appearance hence the term grey matter.

Surrounding the grey matter is the white matter which consists of axons of sensory and motor neurons. The myelin sheath of these neurons gives this part its white appearance.

Spinal nerves innervate the skeletal muscles of the limbs and trunk.

**REFLEX ACTION**

It is a specific single and automatic response to a particular stimulus.

**TYPES OF REFLEX ACTIONS**

**Simple reflex action**

There is a specific single and automatic response to a particular stimulus.

**Examples**

1. Touching a hot object causes quick withdrawal of the hand
2. Sudden blinking when someone throws an object towards your eye
3. Salivation at the sight of food.
4. Sneezing when dust gets into your nose.
5. Constriction of the pupil of the eye in response to light intensity.
6. Secretion of tears when an onion is peeled near you.

During a simple reflex action, an impulse passes through a certain pathway from the receptor to the effector. This pathway usually involves the three neurone.They stimulus is detected by receptor cells which forms an impulse and transmits it to the sensory neurone. The sensory neurone then transmits the impulse to the intermediate neurone in the CNS. The intermediate neurone then transmit the impulse to the motor neurons.The motor neurons then transmits the impulse to the organ which brings about a response to the stimuli. This pathway of stimuli that is responsible for bringing about a reflex action is called a reflex arc.

**Conditioned reflex action**

Is an automatic rapid action in response to a stimulus which is substituted for the normal or natural stimulus. This action is also referred to as a learnt response .It involves response to unrealistic stimulus.

**Examples**

Cycling, walking, swimming, driving, and training of animals in various skills.