Practical anatomy

Zahraa Majid abd alameer

Nervous System >>>>> part 1

Functions of the Nervous System

1. Gathers information from both inside and outside the body -

Sensory Function

2. Transmits information to the processing areas of the brain and

spine

3. Processes the information in the brain and spine – Integration

Function

4. Sends information to the muscles, glands, and organs so they

can respond appropriately – Motor Function

The Nervous System is divided into Two Main Divisions: Central

Nervous System (CNS) and the Peripheral Nervous System (PNS).

Basic Cells of the Nervous System

 Neuron

-Basic functional cell of nervous system

-Transmits impulses (up to 250 mph)

 Parts of a Neuron

• Dendrite – receive stimulus and carries it impulses toward the cell body

• Cell Body - with nucleus & most of cytoplasm

• Axon – fiber which carries impulses away from cell body

• Schwann Cells- cells which produce myelin or fat layer in the Peripheral Nervous

System

• Myelin sheath – dense lipid layer which insulates the axon – makes the axon look

gray

• Node of Ranvier – gaps or nodes in the myelin sheath

• Impulses travel from dendrite to cell body to axon.

Three types of Neurons

• Sensory neurons – bring messages to CNS

• Motor neurons - carry messages from CNS

• Interneurons – between sensory & motor neurons in the

CNS

 Central Nervous System

• Brain

o Brain stem – medulla, pons, midbrain

o Diencephalon – thalamus & hypothalamus

o Cerebellem

o Cerebrum

• Spine

o Spinal Cord.

Meninges

 Meninges are the three coverings around the brain & spine

and help cushion, protect, and nourish the brain and spinal

cord.

• dura mater is the most outer layer, very tough

• arachnoid mater is the middle layer and adheres to the dura

mater and has weblike attachments to the innermost layer, the

pia mater

• pia mater is very thin, transparent, but tough, and covers the

entire brain, following it into all its crevices (sulci) and spinal cord

• cerebrospinal fluid, which buffers, nourishes, and detoxifies the

brain and spinal cord, flows through the subarachnoid space,

between the arachnoid mater and the pia mater