



Single Transmission

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Ilo :

Education

- Illustrate the structure of the nervous system
- Identify Cells of nervous system
- Explain the difference between myelin and un myelin sheath
- Illustrate the structure of myelin and un myelin sheath
- Illustrate how synapses happens
- Classify synapses

Introduction

Education

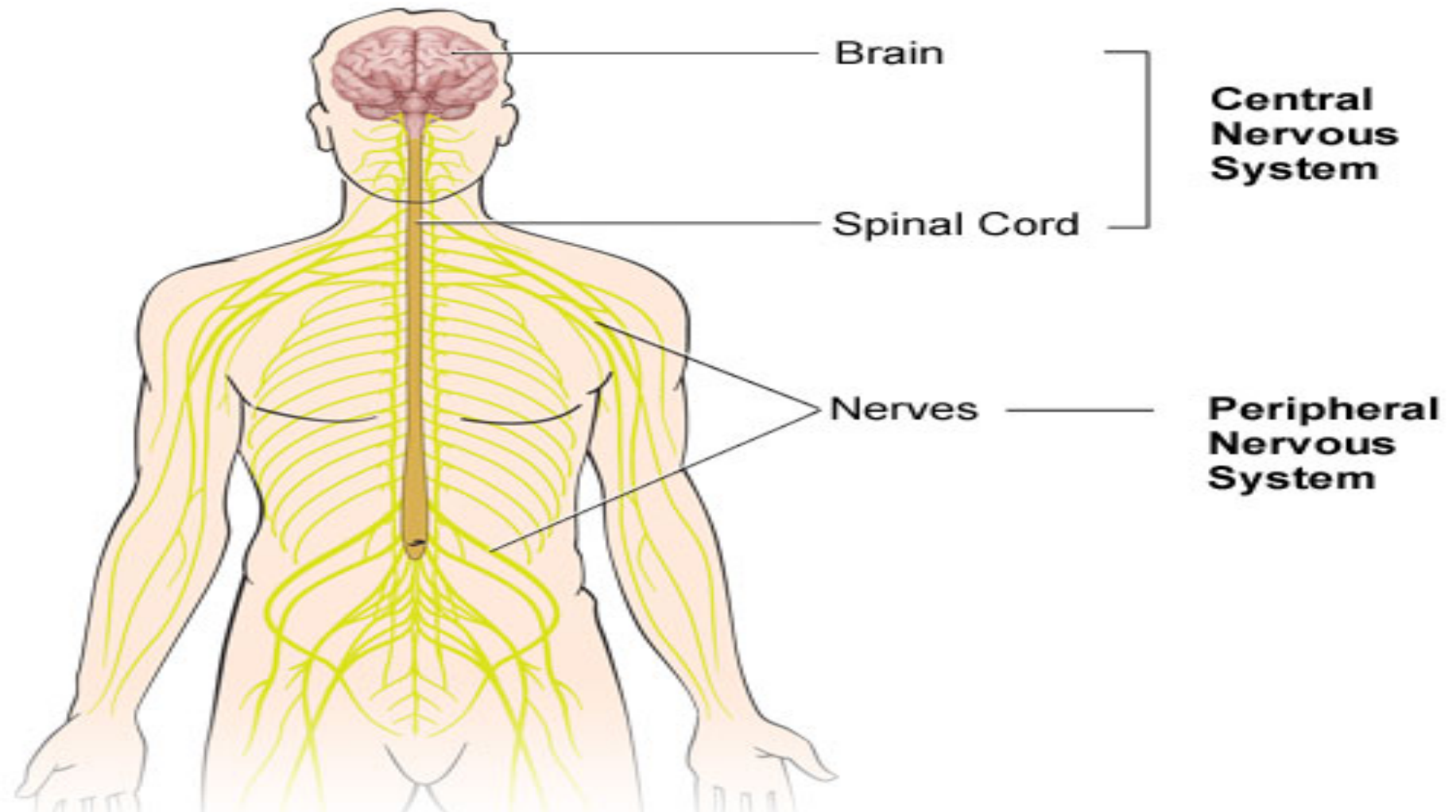
The nervous system coordinates the body's voluntary and involuntary actions and transmits signals between different parts of the body it consists of two main parts: the central nervous system (CNS) and the peripheral nervous system (PNS) and composed mainly of the nerve cells (neuron) and supporting cells (neuroglia)



Illustrate structure of nervous system

Education

The Nervous System



Cells of nervous system

Central Nervous System cells



Neurons

Excitable;
receive,
process,
transmit
information



Microglia

Innate
immunity



Astrocytes

Maintain BBB
integrity;
participate in
synapses



Ependymal

Build
barriers
between
compartments



**Oligoden-
drocytes**

Produce
myelin
sheaths

Peripheral Nervous System cells



Neurons

Excitable;
receive,
process,
transmit
information



Satellite

Support
other cells'
bodies



Schwann

Produce myelin
sheaths around
axons

myelin and un myelin sheath

Education

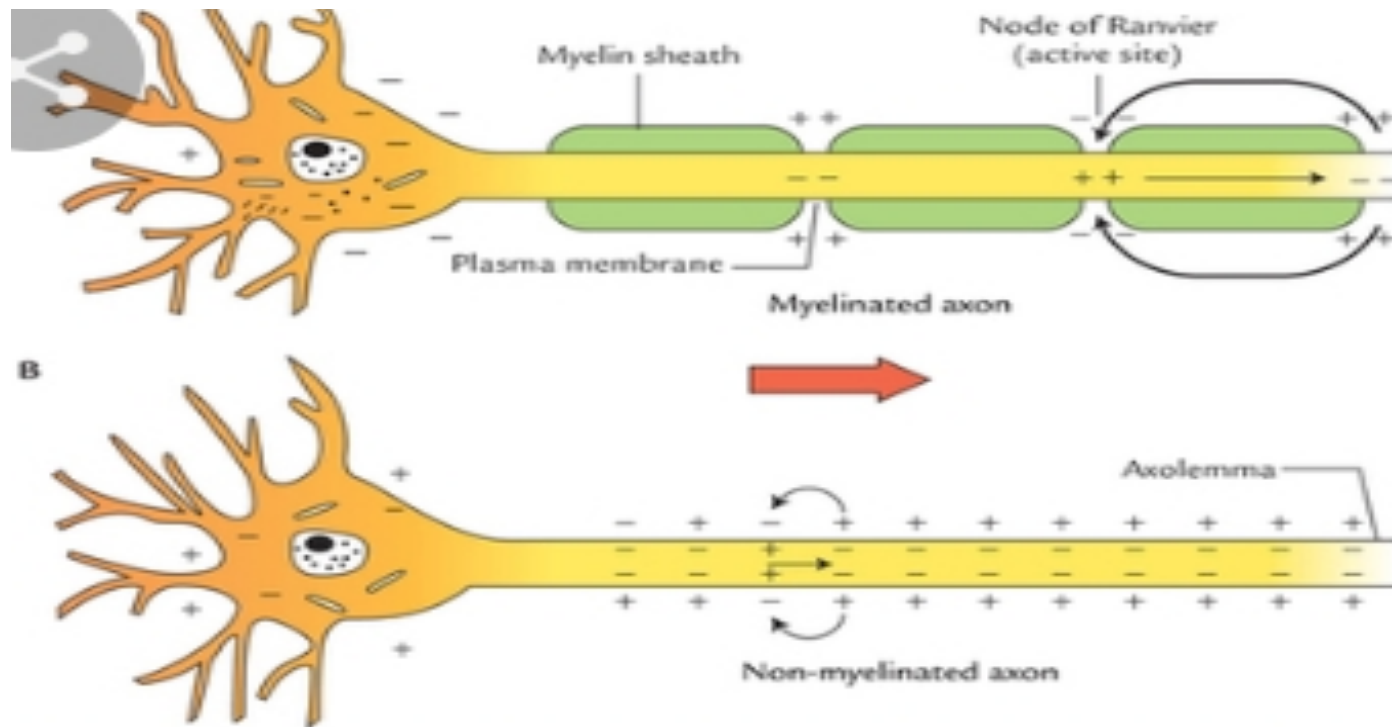
Myelinated vs Unmyelinated Nerve Fibres

More Information Online WWW.DIFFERENCEBETWEEN.COM

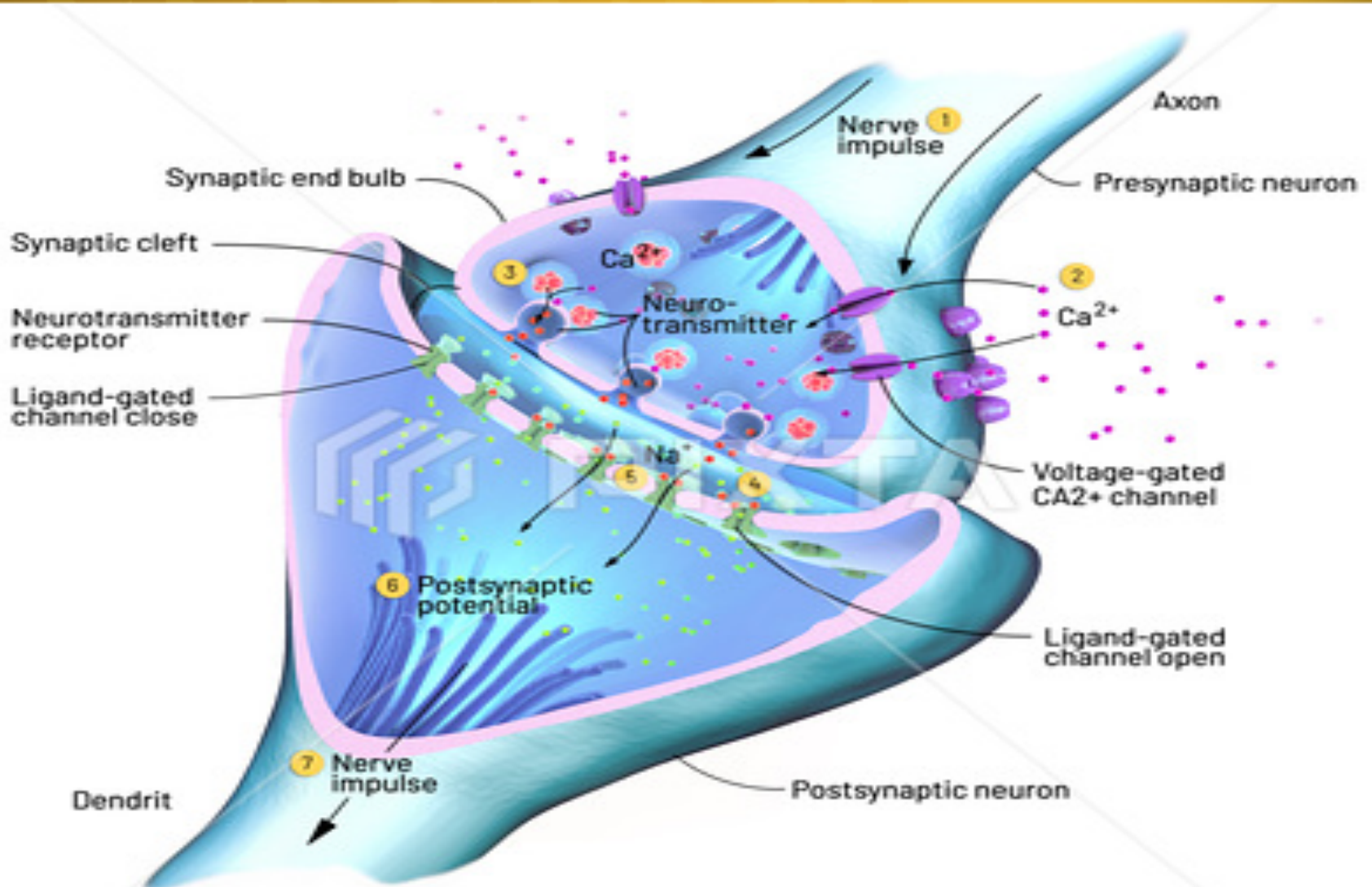
	Myelinated Nerve Fibres	Unmyelinated Nerve Fibres
DEFINITION	Myelinated nerve fibers are the nerve fibers that have myelin sheaths around them.	Unmyelinated nerve fibers are the nerve fibers that do not have myelin sheaths.
MYELIN SHEATH	Present	Absent
NERVE IMPULSE TRANSMISSION	Faster	Slower
NODES OF RANVIER	Present	Absent
COLOUR	White	Grey

Illustrate structure of myelin and un myelin sheath

Education



Illustrate how synapses happens



Chemical synapse

Chemical synapses are specialized junctions through which cells of the nervous system signal to one another and to non-neuronal cells such as muscles or glands

- A chemical synapse between a motor neuron and a muscle cell is called a neuromuscular junction.
- Chemical synapses allow the neurons of the central nervous system to form interconnected neural circuits

Classification of synapses:

Electrical synapse

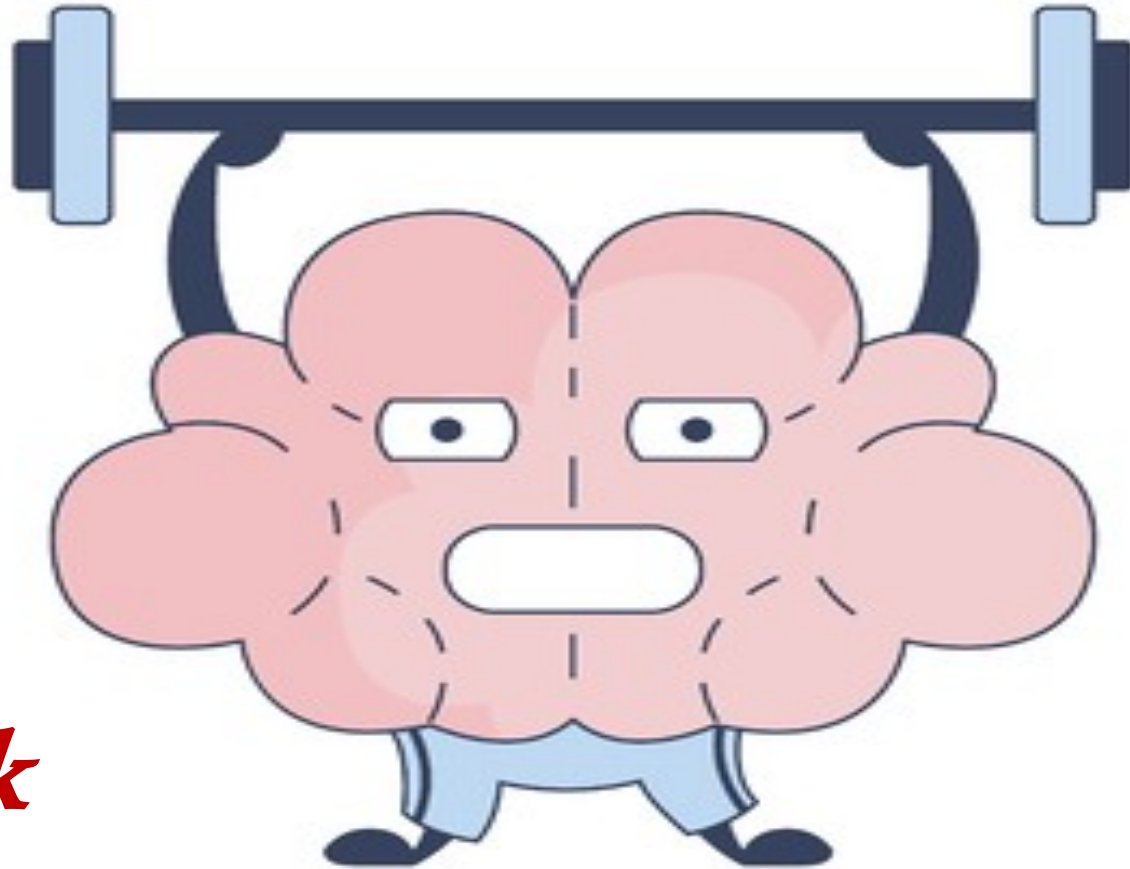
is a mechanical and electrically conductive link between two neighboring neurons that is formed at a narrow gap between the pre- and postsynaptic neurons known as a gap junction. At gap junctions, such cells approach within about 3.8 nm of each other, a much shorter distance than the 20- to 40-nanometer distance that separates cells at chemical synapse. In many animals, electrical synapse-based systems co-exist with chemical synapses.

Summary

Myelin can greatly increase the speed of electric impulse in neurons because it insulates the axon and assembles voltage gated sodium channel clusters at discrete nodes. Along its length myeline damage causes several neurological diseases such as multiple scleroses. Future studies for myelin biology and pathology will provide important clues for establishing new treatment for demyelinating disease.

References:

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*Thank
you*