NEUROANATOMY

• Study of morphological aspect of nervous system

• NERVOUS SYSTEM
  • Central nervous system (CNS)
  • Peripheral nervous system (PNS)
CNS
- Brain
- Spinal cord
PARTS OF BRAIN

- **Telencephalon** – cerebrum
- **Diencephalons** – Thalamus
  - Hypothalamus
  - Epithalamus
  - Subthalamus
• BRAINSTEM
  • MIDBRAIN
  • PONS
  • MEDULLA

• HIND BRAIN
  • PONS
  • MEDULLA
  • CEREBELLUM
STRUCTURAL COMPONENTS
OF NERVOUS SYSTEM

1. Neurons
2. Neuroglial cells
3. Processes of 1&2
Synapse
BASIC STRUCTURAL ORGANISATION

GREY MATTER – CELL BODIES OF NEURONS
  DENDRITES (PART CLOSE TO CELL)
  AXONS (PART CLOSE TO CELL)

WHITE MATTER – MYELINATED AXONS
  NEUROGLIAL CELLS
  Blood vs. are seen in both
• GROUP OF NEURONS
  • NUCLEUS – CNS
  • GANGLION – PNS

• GROUP OF FIBERS
  • TRACT – CNS
  • NERVE – PNS
NUCLEI

- Cranial nerve nuclei
- Others e.g. Olivary nucleus, Red nucleus, Basal nuclei etc.
TRACTS/ PATHWAYS

ASCENDING (SENSORY)

DESCENDING (MOTOR)
• MOTOR PATHWAYS
  • PYRAMIDAL
    – CORTICOSPINAL
    – CORTICONUCLEAR
  • EXTRAPYRAMIDAL

• SENSORY PATHWAYS
  Involves various neurons to reach main sensory area in brain
• CAVITY IN BRAIN - VENTRICLE

- Lateral ventricle - CAVITY OF TELENCEPHALON
- Third ventricular - CAVITY OF DIENCEPHALON
- Aqueduct - CAVITY OF MENSENCEPHALON
- Fourth ventricle - CAVITY OF RHONBENCEPHALON
BLOOD SUPPLY
IMAGING TECHNIQUES

- Computerized tomography (CT)
- Magnetic resonant imaging (MRI)