

## Unit 9:

# Organization of the nervous system

## Chapter 7 (Head) and copies from Essential Neuroscience

### GENERAL OBJECTIVES:

- Division of the nervous system to the central (CNS) and peripheral (PNS), to the somatic and autonomic (ANS)
- Components of CNS: brain and spinal cord
- Organisation of the white and gray matter in CNS
- Understand meaning of ascendent and descendent, afferent and efferent, ipsilateral and contralateral, somatotopic...
- Understand anatomical basis of protection/supply of CNS (bones, meninges, CSF)

### SPECIFIC OBJECTIVES:

#### **Principles of the organisation of the Central Nervous System**

- To know the composition of the brain-cerebrum (telencephalon & diencephalon) and brainstem (mesencephalon, pons, medulla oblongata) and to be able to recognize their principle features on anatomical specimens,
- To know parts of diencephalon (hypothalamus, subthalamus, dorsal thalamus and epithalamus), their morphological features and relations
- Which components make up the brainstem?
- What is the border between spinal cord and medulla?
- Describe features on ventral and dorsal aspects of medulla.
- Which features of the mesencephalon are visible on the basal surface of the brain?
- What are principle features of cerebellum?
- How is cerebellum connected to the brainstem?
- Which parts of hypothalamus are visible on the basal aspect of the brain?
- Study parts/relationship of the brain/brainstem on sagittal, coronal and horizontal sections.

#### ***Telencephalon, Brain***

- Describe morphological characteristics of telencephalon including cerebral surface features
- What are the ventricles of the brain, how are they organized?
- Name and describe (and find on coronal sections) all basal nuclei of the brain.
- How are cerebral hemispheres interconnected?
- What are commissural, projecting and associative fibers in the brain?
- What is the internal capsule?
- What is corpus striatum?
- What and where are primary motor/sensory cortices?
- What is «homunculus»?