Contents

1 The Brain and Behavior

1.1 The Brain Has Distinct Functional Regions

The Central Nervous System Has Seven Main Parts

- **Spinal cord**: most caudal part of the central nervous system. It is subdivided into cervical, thoracic, lumbar, and sacral regions.
- **Brain stem**: consists of the medulla oblongata, pons, and midrain. Relays input from the spinal cord and back, and controls input to and from the head.
- **Medulla oblongata**: rostral to spinal cord and includes several centers responsible for vital autonomic functions.
- **Pons**: rostral to medulla and conveys information about movement.
- **Cerebellum**: lies behind pons, modulates force and range of movement, and involved in learning motor skills.
- **Diencephalon**: lies rostral to midrain and contains two structures, thalamus (processes information reaching cerebral cortex) and hypthalamus (regulates autonomic, endocrine, and visceral functions).
- **Cerebrum**: comprises two cerebral hemispheres, each consisting of wrinkled outer layer (the cerebral cortex), and three deep lying structures (basal ganglia, the hippocampus, and the amygdaloid nuclei).
- **Cerebral cortex**: divided into four distinct lobes— frontal, parietal, occipital, and temporal. The frontal lobe is largely concerned with short-term memory and planning, as well as movement; the parietal lobe with somatic sensation, forming a body image, and relating it to extrapersonal space; the occipital lobe with vision; and the temporal lobe with hearing—combined with deeper structures—with learing, memory, and emotion.

2 Chapter

2.1

▷