Endocrine System (Chapter 13)

The endocrine system is primarily made of glands which secrete chemicals called _____.

The nervous system and endocrine system are both involved with communication and maintaining _____, but they do this in different ways. The nervous system uses electrical signals, while the endocrine system uses slower-acting hormones, and so are in charge of body processes that happen more _____.

Hormones act only on cells with receptors specific to that hormone. This is called _____.

Two types of Hormones: Steroid and non-Steroid Venn Diagram

Gland	Location	Hormone(s)	Functions
Pituitary			

Adrenal			
Pineal			
Thymis			
Thyroid			
Parathyroid			
Pancreas			
Gonads			

Nervous System Review

1. The nervous system has three main roles: sensing, integrating, and then what?
    a. Growing
    b. Responding
    c. Protecting
    d. Repairing

2. What are the two main divisions of the nervous system?
    a. Central and Peripheral
    b. Somatic and Visceral
    c. Sympathetic and Parasympathetic
    d. Sensory and Motor

3. What are the two main organs that make up the central nervous system?
    a. Eye and Sensory nerves
    b. Brain and Ears
    c. Spinal cord and Brain
    d. Peripheral nerves and brain

4. The two types of cells that make up the nervous system are the neurons and the neuroglia. What is the main role of the neuroglia?
    a. To conduct impulses through the body
    b. To protect the neurons
    c. To carry signals from the nerve endings to the central nervous system
    d. To have a calming effect on the body

5. Which part of the neuron receives the signal from other neurons?
    a. Axon
    b. Myelin sheath
    c. Node of Ranvier
    d. Dendrite

6. Which part of the neuron encases the axon and helps speed impulse conduction?
    a. Axon
    b. Myelin sheath
    c. Node of Ranvier
    d. Dendrite

7. Nerves in the central nervous system lack a neurilemma, which is responsible for the regeneration of an injured nerve. What does this mean if the spinal cord or brain is damaged?
    a. Damage to the spinal cord or brain is temporary because it can be regenerated
    b. Damage to the brain and spinal cord is often permanent because it cannot be regenerated

8. Normally, a neuron is polarized, where the inside has a negative electrical charge and the outside has a positive electrical charge. When the stimulus comes along, channels open and positive sodium ions rush inside changing the interior from negative to positive. What is the cell called now?
    a. Polarized
    b. Resting potential
    c. Depolarized
    d. Membrane potential

9. When an impulse travels down a nerve that is myelinated, it has to jump from node to node. What is this leaping called?
    a. Saltatory conduction
    b. Neurotransmitter
    c. Refractory period
    d. Repolarized

10. What is the area called where an impulse travels from one neuron to another?

a. Schwann cell
b. Cell body
c. Synapse
d. Interneuron

11. The spinal cord is not only protected by vertebrae, but also by three layers of connective tissue. What are these called?

a. Pia mater, arachnoid mater, dura mater
b. Dorsal nerve root, spinal nerve, ventral nerve root
c. Gray matter, white matter, epidural space
d. Motor neuron, interneuron, sensory neuron

12. In the spinal cord, the dorsal nerve root carries sensory information into the spinal cord. This structure then carries motor information out of the spinal cord.

a. Pia mater
b. Ventral nerve root
c. Arachnoid mater
d. Epidural space

13. Within the white matter of the spinal cord are bundles of axons called tracts. Ascending tracts convey sensory signals from the spinal cord to the brain. What type of information is taken from the brain down the spinal cord to the skeletal muscles on the descending tracts?

a. Motor impulses
b. Sensory impulses
c. Sympathetic impulses
d. Parasympathetic impulses

14. In the makeup of a nerve, there are nerve fibers gathered into a bundle. Similar to muscles, what is this bundle of nerve fibers called?

a. Axons
b. Dendrites
c. Fascicles
d. Connective tissue

15. Each spinal nerve innervates a specific area of skin. What is this called?

a. Cervical nerves
b. Thoracic nerves
c. Dermatomes
d. Spinal cord

16. In the motor division of the peripheral nervous system, there is the somatic motor division, which allows voluntary movements of skeletal muscles. Which division provides automatic activities such as control of blood pressure and heart rate to maintain homeostasis?

a. Sensory
b. Autonomic motor or autonomic nervous system
c. Motor
d. Cardiac

17. The autonomic nervous system contains two divisions: sympathetic and parasympathetic. Which division is known for preparing for physical activity and causes “fight or flight” reactions?

a. Sympathetic
b. Parasympathetic

18. Do sympathetic and parasympathetic divisions often both affect the same organ?

a. Yes
b. No

19. The following are examples of which division of the autonomic nervous system?
Has a calming effect, decreases heart rate, causes resting and digesting state.

a. Sympathetic
b. Parasympathetic
c. Somatic
d. Spinal

20. When a neurotransmitter is released, it binds to a receptor. Do different type of receptors determine the effect of a neurotransmitter?

a. Yes
b. No

21. What are the three structures that make up the brainstem?

a. Cerebellum, Cerebrum, Diencephalon
b. Midbrain, Pons, Medulla oblongata
c. Gyri, Sulci, Midbrain
d. Cerebellum, Pons, Longitudinal fissure

22. Which of the following is the largest portion of the brain?

a. Cerebellum
b. Brainstem
c. Diencephalon
d. Cerebrum

23. True or False: the brain is covered with the same layers of connective tissue as the spinal cord?

a. True
b. False

24. Cerebrospinal fluid constantly flows through the central nervous system providing nourishment and removing waste. What are the chambers in the brain through which this fluid flows?

a. Regions
b. Layers
c. Ventricles
d. Cavities

25. What structure serves to restrict what substances can pass from the bloodstream into the tissue fluid of the brain?

a. Skull
b. Ventricles
c. Blood-brain barrier
d. Cerebrospinal fluid

26. This part of the brainstem not only attaches the brain to the spinal cord, but also regulates heart rate, blood pressure, and breathing.

a. Midbrain
b. Pons
c. Medulla oblongata
d. Cerebellum

27. This fist sized structure in the brain contains more neurons than the rest of the brain combined and is largely involved in motor functions.

a. Midbrain
b. Pons
c. Medulla oblongata
d. Cerebellum

28. What structure is made up of the thalamus and hypothalamus?

a. Brainstem
b. Midbrain
c. Cerebellum
d. Diencephalon

29. Though small, this area of the diencephalon is powerful! It is responsible for hunger, thirst, and temperature regulation, is involved in emotional responses, controls the pituitary gland, and the autonomic nervous system.

a. Thalamus
b. Hypothalamus
c. Cerebellum
d. Cerebrum

30. There are 5 major lobes that make up the cerebrum. Which lobe is located towards the front and controls voluntary movements, emotions, reasoning, and is the site for parts of our personality?

a. Parietal
b. Frontal
c. Occipital
d. Temporal

31. This lobe is responsible for processing visual information.

a. Frontal
b. Parietal
c. Occipital
d. Temporal

32. The limbic system attaches areas of the lower brainstem (which do automatic functions) with areas in the cerebral cortex which do higher mental functions. This helps you for example express feelings in socially acceptable ways. Which part of the limbic system deals especially with emotions?

a. Hippocampus
b. Amygdala
c. Cerebrum
d. Thalamus

33. True or False: language is controlled by a single region of the brain.

a. True
b. False

34. True or False: Sleep is a fairly passive process and sleep deprivation doesn't have physical effects on the rest of the body.

a. True
b. False

35. Which hemisphere of the brain is responsible for the following: art and music, emotion, imagination, and simultaneous processing?

a. Right hemisphere
b. Left hemisphere

36. Receptors are classified according to the type of stimuli they detect. What type of receptors are activated by a change in temperature?

a. Mechanoreceptors
b. Thermoreceptors
c. Nociceptors
d. Photoreceptors

37. The stronger a particular stimulus, the more nerve fibers fire. What does this allow the brain to interpret?

a. Type of sensation
b. Location of sensation
c. Intensity of sensation

38. These are the structures that would respond when you experience pain like stubbing your toe or slamming your finger in a door.

a. Slow pain fibers
b. Fast pain fibers
c. Thermoreceptors
d. Chemoreceptors

39. True or false: mechanoreceptors are all the same size and shape.

a. True
b. False

40. There are many protrusions on the tongue which contain taste buds. What are these called?

a. Gustation
b. Papillae
c. Epiglottis
d. Supporting cells

41. True or False: the taste buds send impulses back to the spinal cord.

a. True
b. False

42. In what sensory organ do you find olfactory receptor cells?

a. Tongue
b. Nose
c. Ear
d. Eye

43. What are the three major portions of the ear?

a. Malleus, incus, stapes
b. Outer ear, middle ear, inner ear
c. Semicircular canals, vestibule, cochlea

44. What part of the ear helps to funnel sound into the auditory canal?

a. Auricle or pinna
b. Tympanic membrane
c. Cochlea
d. Malleus

45. This structure in the ear separates the outer ear from the middle ear and vibrates in response to sound waves.

a. Eustachian tube
b. Malleus
c. Tympanic membrane
d. Auricle

46. This structure in the inner ear is helpful for equilibrium and balance.

a. Cochlea
b. Semicircular canals
c. Malleus
d. Auricle

47. This membrane lines the inner surface of the eyelid and helps keep it moist.

a. Eyelashes
b. Nasolacrimal duct
c. Conjunctive
d. Iris

48. What is the role of the superior rectus, medial rectus, lateral rectus, and inferior rectus?

a. Muscles that move the eye up, down, left, and right
b. Muscles that change the size of the pupil
c. Muscles that change the size of the lens

49. This structure covers the anterior part of the eye and sits over the iris admitting light.

a. Retina
b. Optic nerve
c. Cornea
d. Cones

50. What are the two photoreceptors that make up the retina?

a. Sclera and cornea
b. Rods and cones
c. Iris and optic nerve

51. What is the name of the jelly-like substance that keeps the eyeball from collapsing?

a. Vitreous humor
b. Lens
c. Anterior cavity
d. Posterior chamber

52. Light must be bent to focus on the retina. What is the bending of light rays called?

a. Refraction
b. Convergence
c. Accommodation

53. When the eye must move inward to see a close object, what is this called?

a. Refraction
b. Convergence
c. Accommodation

54. To reduce blurriness when focusing, the eye must sometimes constrict the pupil to screen out peripheral light. What type of muscles are used for this?

a. Intrinsic eye muscles
b. Extrinsic eye muscles

55. When the curvature of the lens changes to allow the eye to focus, what is this called?

a. Refraction
b. Convergence
c. Accommodation

56. This type of photoreceptor is active in bright light and distinguishes color.

a. Rods
b. Cones
c. Lens
d. Cornea

57. This structure is responsible for delivering the nerve impulses from the eye to the brain, where opposite sides of the brain interpret each eye's visuals.

a. Rods
b. Cones
c. Optic nerve
d. Lens

Bulging Eye Mystery

Symptoms

A woman

40 years old

Eyes were bulging with pain and light sensitivity

Not sleeping well and losing some weight

She is generally healthy, but does have a history of smoking

Disease Possibility

Why?