

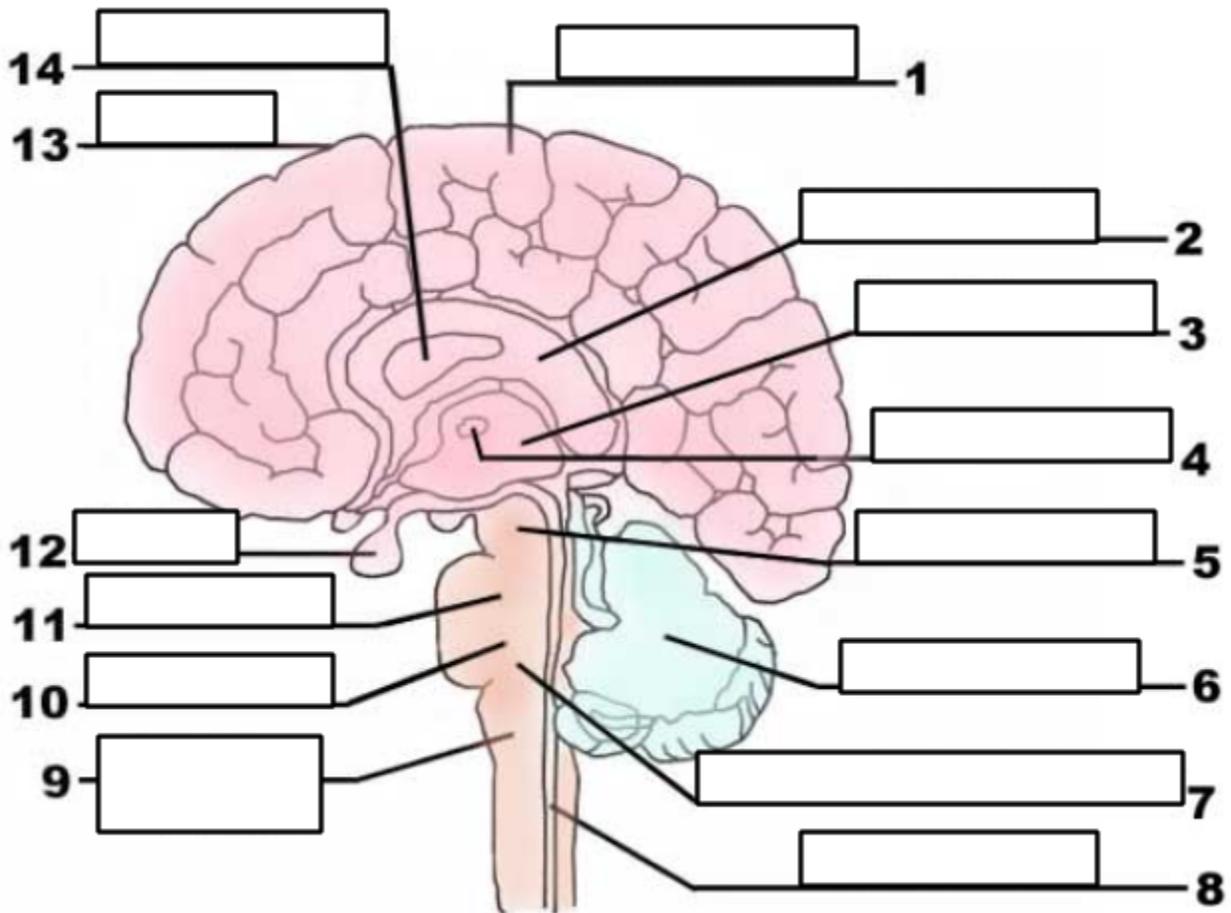
Name:

Anatomy and Physiology Practice Test

Diagram:

Points: /14

Label the following diagram (1 point each):

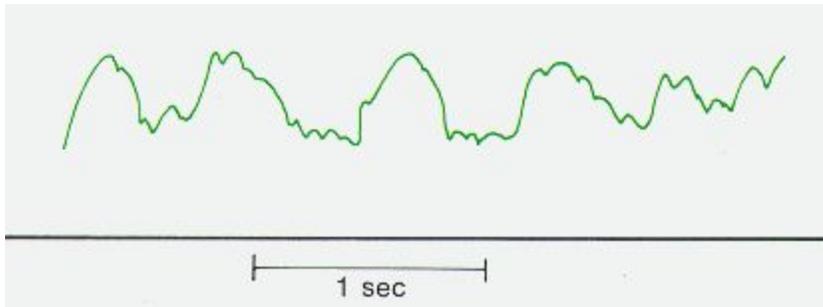


A: 1-cerebral cortex, 2-corpor callosum, 3-hypothalamus, 4-thalamus, 5-midbrain, 6-cerebellum, 7-reticular-activating system, 8-spinal cord, 9-medulla oblongata, 10-pons, 11-brain stem, 12-pituitary gland, 13-meninges, 14-caudate nucleus

Short Answer:

Points: /22

What is the EEG waveform shown below and what is it indicative of (3 points)?



A: A delta wave (1 point). Indicates a deep, dreamless sleep that is best for restoration and health. (1 point)

What part of the neuron receives messages from other cells? Describe what they look like and how they receive the messages. (6 points)

A: The dendrites of a neuron receive messages from other cells (1 point). They resemble root-like structures that extend outwards from the cell body (2 points). Dendrites receive messages by grabbing onto neurotransmitters outside of the neuron (2 points). The neurotransmitters fit into the ends of the dendrite in a lock-and-key scheme (1 point).

What denotes a special sense as opposed to a general sense? (6 points)

A: General senses are scattered throughout the body and simple in structure (2 points). Receptors for the special senses - smell, taste, vision, hearing, and equilibrium - are concentrated in specific areas of the brain, each being anatomically distinct from one another (2 points). They are generally embedded in epithelial tissue with complex sensory organs, and the neural pathways are also more complex than those of general (2 points).

Where are the receptors on the cell that bind fat-soluble hormones? (1 point)

A: Inside the Cell (1 point), water soluble hormones bind on the outside (1 point)

What causes color blindness? (5 points)

A: Most color blindness issues are inherited from your parents (1 point). There are three types of cone cells in the eye. Each cone cell type detects either red, green, or blue (1 point). Seeing the different colors is because the cone cells sense different amounts of the three colors. When color blind, one of the cone cell types is either not there or impaired (2 points). Besides being inherited, color blindness can be caused by aging, injury to eyes, and eye problems (1 point).

What is the primary cause of Cushing's syndrome? (1 point)

A: Too much cortisol

What are the names of the three bones in the middle ear? (3 points)

Points: /15

A: Malleus(1 point), Incus(1 point), Stapes (1 point)

What was one of the primary causes of Goiter formation and how is it resolved? (2 points)

A: Iodine deficiency (1 point), solved by adding iodine to salt (1 point)

Multiple Choice:

Which is not a part of a special sense organ? (2 points)

A: D, viscera refers to internal organs mainly in the chest (heart or lungs) and abdomen (liver, pancreas, or intestines)

Which of the following is not a monocular cue for depth? (2 points)

A: B, Stereopsis is when someone can see clearly with both eyes. This is vital to accurate depth perception.

Glaucoma is defined by: (2 points)

A: D

Removal of the adenohypophysis would affect all except: (2 points)

A: B, Adrenal medulla

Which gland secretes Oxytocin? (2 points)

A: B, the Pituitary gland secretes oxytocin, also known as the “love hormone”, and also secretes ADH and produces ACTH, LH, and MSH.

What is the most common endocrinological disease? (2 points)

Points: /23

A: A

What is Thyrotoxicosis? (2 points)

A: D

What prevents the amount of cortisol in blood from going too high? (2 points)

A: B, The presence of cortisol inhibits the chemical reactions that produce cortisol -this is a negative feedback loop

Fill in the Blank:

Joe is out camping when he sees a wild bear coming towards him. His heart races and he prepares to run. Joe's _____ nervous system is at work here. (2 points)

A: sympathetic

The common name for conjunctivitis is _____. (2 points)

A: Pinkeye

_____ are elevated projections on the tongue. (2 points)

A: Papillae, they are most present on the tip and sides of the tongue. They have taste buds on the upper surface that distinguish the 5 tastes: sweet, bitter, sour, salty, umami.

Miscellaneous:

What are the 5 groups that the nerves of the spinal cord are divided into? (1 point each)

A: cranial, thoracic, lumbar, sacral, and coccygeal.

What are the 6 groups of receptors classified by the stimulus detected? (1 point each)

A: Mechanoreceptor - activated when the mechanical stimuli are deformed, chemoreceptor - activated by changing concentration in chemicals, thermoreceptor - activated by changes in temperature, nociceptors - activated by tissue damage, photoreceptors - activated by hyperpolarization in the cell, osmoreceptors - activated by change in osmotic pressure

Name two hormones the Hypothalamus produces. (1 point each)

Points: /6

A: Any of the following would work: Oxytocin, Somatostatin, Thyrotropin-Releasing Hormone, Anti-Diuretic Hormone, Corticotropin-Releasing Hormone, Gonadotropin-Releasing Hormone, Growth Hormone-Releasing Hormone

Match each Mechanoreceptor to their function: (1 point each)

- | | |
|----------------------|--|
| A. Proprioceptors | 1. Detect lung inflation, stomach distention |
| B. Pressoreceptors | 2. Detect muscle tension |
| C. Stretch receptors | 3. Detect blood pressure |

A: A-2, B-3, C-1

T or F: Most adrenal tumors associated with overproduction of aldosterone are malignant (1 point)

A: True, benign tumors very rarely overproduce aldosterone.

