Anatomy & Physiology Division C Answer Key

1. C
2. D
3. F
4. H
5. E
6. G
7. I
8. A
9. B

__P___ afferent neurons	A. bundles of cell bodies outside of the CNS.
__E___ autonomic nervous system	B. Potassium ions inside the plasma membrane and sodium ions are outside.
__N___ axon	C. similar to the insulation of an electrical wire.
__G___ central nervous system	D. largest part of the brain
__I___ cerebellum	E. control of involuntary actions
__D___ cerebrum	F. transmit impulses to the cell body of a neuron
__F___ dendrites	G. comprised of the brain and spinal cord.
__B___ depolarization	H. allows the control of skeletal muscles.
__M__ efferent neurons	I. part of the brain that aids in balance.
__A___ ganglion	J. indentations in the myelin
__C___ myelin	K. the membrane returns to its normal or polarized state.
__J___ nodes of Ranvier	L. sodium gates open and sodium ions rush into the neuron.
__L___ polarization	M. transmit impulses away from the CNS to an effector.
__K___ repolarization	N. similar to a conductor in a electrical wire.

__H___ somatic nervous system

__O___ synapse

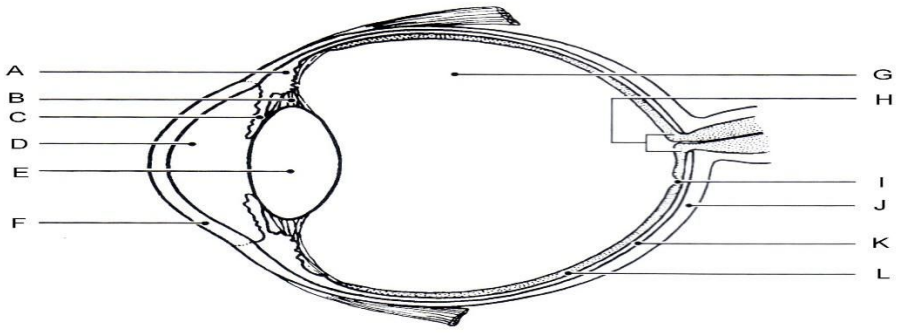
O. a small gap between the presynaptic and postsynaptic membranes.

P. those that take impulses toward the CNS

Pictures and Labeling

Each question is worth 2 points. The first question is a tiebreaker question

1. The two scientists pictured above have made a very important contribution to endocrinology. Who are these two scientists? Benting and Best
2. What hormone did they discover and identify? Insulin
3. Which disease is seen in the patient above? Cretinism
4. This disease is caused by hyposecretion of which hormone? Thyroid Hormone
5. Characteristics of this disease include:
   A. Elevated FSH and LH levels
   B. Decreased secretion of FSH and LH
   C. Elevated levels of estrogen
6. There is a high prevalence of what other hormone defect in Turner's syndrome?
   A. Hyperthyroidism
   B. Hyperaldosteronism
   C. Hypothyroidism
   D. Hyperparathyroidism
7. The above pictures are characteristics of what syndrome? Cushing Syndrome
8. This syndrome is caused by the hypersecretion of which hormone? Cortisol



A Ciliary body
B Ciliary zonule
C Iris
D Aqueous humor
E Lens
F Cornea

G Vitreous humor
H Optic disk
I Fovea centralis
J Sclera
K Choroid
L Retina

Case #1:

Harry E. Sullivan, a 21-year-old Caucasian male who lives with his parents, reports to your clinic with a chief complaint of gradual onset of weakness and fatigue, and pain in his knees. He works at UPS at night while attending college during the day. His work duties require him to lift boxes up to 60 lbs. by himself and he has been struggling to do so in recent months, even becoming dizzy and nearly fainting a few times. He has used almost all of his sick days due to feeling nauseous and vomiting while at work and occasionally before coming to work. He reported a decrease in his weight and not being hungry nearly as often. He used to stop by the 24-hour Subway for a sandwich every night after work, but only goes one or two times per week in recent months. Now when he goes the sandwiches taste bland and he has to use a lot of salt to make them taste better. He states being nervous about eating certain foods when he is hungry due to diarrhea which he has not figured out the cause of. When asked, he states that his tanned skin from the summer has not faded like it usually does even though it is well into the winter months (January) and that he does not use a tanning bed. He states his parents are worried because he is quick to become irritated with them and rarely comes out of his room when at home.

1. What disease does Harry have? Addison's Disease
2. This disease is due to...?
   A. Hypersecretion of insulin
   B. Hyposecretion of aldosterone
   C. Hypersecretion of aldosterone
   D. Hyposecretion of cortisol

3. Which of the following treatments would be most useful to Harry?
   A. Dual Release Hydrocortisone
   B. Surgery
   C. Radiation Therapy
   D. Ketoconazole
4. The hyperpigmentation of his skin is due to…
   A. Hyposecretion of ACTH
   B. Hyposecretion of aldosterone
   C. Hypersecretion of ACTH
   D. Hypersecretion of MSH

1. The adenohypophysis consists of two parts, the pars distalis and the
    A. Infundibulum
    B. Pars tuberalis
    C. Pars intermedia
    D. Lobus nervosa
2. Calcitonin is produced in what part of the thyroid gland?
    A. Colloid
    B. Parafollicular Cells
    C. Follicle Cells
    D. Parathyroid Cells
3. Which hormone decreases phosphate absorption by the kidney?
    A. Parathyroid Hormone
    B. Calcitonin
    C. Growth Hormone
    D. Insulin
4. Endemic goiter results from a lack of _____ in the diet.
    A. Calcium
    B. Iodine
    C. Protein
    D. Vitamin C
5. The following neuropeptide is secreted in response to physiologic stressors such as pain.
    A. GABA
    B. Endorphins
    C. Serotonin
    D. Adrenaline
6. Pheochromocytomas are a tumor of the:
    A. Parathyroid Gland
    B. Pineal Gland
    C. Pituitary Gland

D. Adrenal Medulla

7. Which hormone(s) are secreted from the beta cells of the pancreas?
   A. Insulin and Amylin
   B. Insulin and Glucagon
   C. Amylin
   D. Insulin
8. Diabetes insipidus is due to a deficiency of
   A. Insulin
   B. Glucose
   C. ADH
   D. Glucagon
9. Which hormone is known as the “satiety hormone”?
   A. Adiponectin
   B. Ghrelin
   C. Serotonin
   D. Leptin
10. Which hormone has a mechanism that acts on nuclear receptors?
   A. Insulin
   B. Parathyroid Hormone
   C. Cortisol
   D. Thyroid Stimulating Hormone
11. Which of the following are characteristics of the sympathetic nervous system?
   A. Inhibits the digestive tract
   B. Dilates the bronchi
   C. Accelerates the heart beat
   D. All of the above
12. The _____ contains centers for breathing, blood pressure, and heartbeat.
   A. Cerebrum
   B. Medulla Oblongata
   C. Pons

D. Brain Stem

13. Huntington's Disease, an inherited condition where brain cells break down over time, is linked with a deficiency in which amino acid?

    A. GABA

    B. Valine

    C. Tyrosine

    D. Lysine

14. The progression of a nerve impulse with the nodes of Ranvier is called _____.

    A. Saltatory Conduction

    B. Relative Conduction

    C. Action Potential

    D. Resting Potential

15. The primary effect of cocaine on the nervous system is that cocaine blocks the re-uptake of

    A. Monoamines

    B. Tandamines

    C. Catecholamine

    D. Monoamine Oxidase

16. Excessive polarization due to GABA is created due to the opening of _____ channels.

    A. CA+

    B. Cl-

    C. K+

    D. NA+

17. Which of the following is not considered a type of synapse?

    A. Dendrodendritic

    B. Axosomatic

    C. Axoaxonic

    D. Denoaxonic

18. Which of the following types of cells line the ventricles and spinal cord?

    A. Astrocytes

    B. Schwann Cells

    C. Ependymal Cells

D. Oligodendrocytes

19. Myasthenia gravis is due to _____ receptors being blocked and destroyed by antibodies.

A. Epinephrine

B. Nicotine

C. Acetylcholine

D. Transient

20. Which of the following types of cells is the most common in the CNS?

A. Astrocytes

B. Oligodendrocytes

C. Neuroglia

D. Celiac Cells

21. The function of the _____ is to drain fluid from the inner ear into the throat.

A. Semicircular Canal

B. Cochlea

C. Otolith Cells

D. Eustachian Tube

22. This part focuses light, changing shape as it takes in reflected light from objects near and far.

A. Lens

B. Iris

C. Retina

D. Cornea

23. The function of the choroid is to

A. Make color vision possible

B. Refract light rays

C. Absorbs stray light

D. Regulate light entrance

24. The ganglionic cells have axons that become the _____ nerve.

A. Auditory

B. Olfactory

C. Facial

D. Optic

25. Chewing gum, yawning, and swallowing in elevators and airplanes help to move air through the _____, which equalizes air pressure upon ascent and descent.

A. Optic Nerve

B. Tympanic Membrane

C. Semicircular Canals

D. Eustachian Tube