Anatomy & Physiology Division C Test

Name 1		Name 2	
Team Number		Date	
School			

The test is arranged in the following pattern:

1. *Matching*
2. *Pictures*
3. *Clinical Anatomy and Physiology Case*
4. *Multiple Choice*

You may rip the test. The point values for each question are specified at the beginning of each page. Good luck!

Part 1: Matching (1 pt. each)

1. *Growth Hormone*
2. *Insulin*
3. *Cortisol*
4. *Aldosterone*
5. *Melatonin*
6. *ACTH*
7. *Prolactin*
8. *Oxytocin*
9. *ADH*

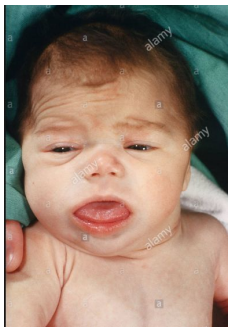
- *This hormone is released from the paraventricular nucleus of the hypothalamus.*
- *This hormone is released from the supraoptic nucleus of the hypothalamus.*
- *The hormone is also known as somatotropin.*
- *This hormone decreases the rate of gluconeogenesis.*
- *Amine hormone synthesized from the amino acid, tryptophan*
- *This hormone is secreted in the zona glomerulosa of the adrenal glands.*
- *Hypersecretion of this hormone results in Cushing's disease.*
- *Hypersecretion of this hormone leads to the development of Cushing's syndrome.*
- *This pituitary hormone is essential in lactation.*

_____ *afferent neurons*	*A. bundles of cell bodies outside of the CNS.*
_____ *autonomic nervous system*	*B. Potassium ions inside the plasma membrane and sodium ions are outside.*
_____ *axon*	*C. similar to the insulation of an electrical wire.*
_____ *central nervous system*	*D. largest part of the brain*
_____ *cerebellum*	*E. control of involuntary actions*
_____ *cerebrum*	*F. transmit impulses to the cell body of a neuron*
_____ *dendrites*	*G. comprised of the brain and spinal cord.*
_____ *depolarization*	*H. allows the control of skeletal muscles.*
____ *efferent neurons*	*I. part of the brain that aids in balance.*
_____ *ganglion*	*J. indentations in the myelin*
_____ *myelin*	*K. the membrane returns to its normal or polarized state.*
_____ *nodes of Ranvier*	*L. sodium gates open and sodium ions rush into the neuron.*
_____ *polarization*	*M. transmit impulses away from the CNS to an effector.*
_____ *repolarization*	*N. similar to a conductor in a electrical wire.*
_____ *somatic nervous system*	*O. a small gap between the presynaptic and postsynaptic membranes.*
_____ *synapse*	*P. those that take impulses toward the CNS*

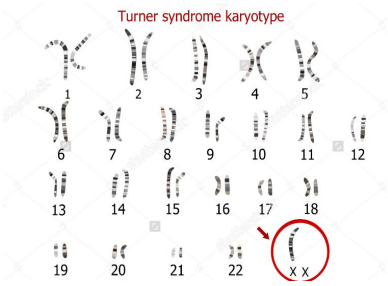
Pictures and Labeling

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?*
2. *What hormone did they discover and identify?*



3. *Which disease is seen in the patient above?*
4. *This disease is caused by hyposecretion of which hormone?*



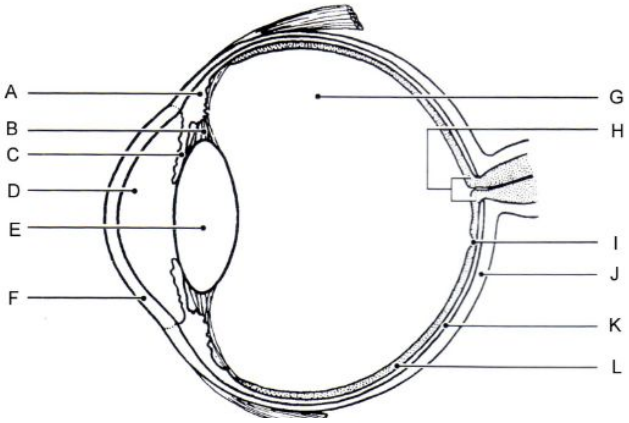
5. *Characteristics of this disease include:*
   A. *Elevated FSH and LH levels*
   B. *Decreased secretion of FSH and LH*
   C. *Elevated levels of estrogen*
6. *There is a high prevalence of what other hormone defect in Turner's syndrome?*
   A. *Hyperthyroidism*
   B. *Hyperaldosteronism*

C. *Hypothyroidism*

D. *Hyperparathyroidism*

7. *The above pictures are characteristics of what syndrome?*

8. *This syndrome is caused by the hypersecretion of which hormone?*



A. *G.*

B. *H.*

C. *I.*

D. *J.*

E. *K.*

F. *L.*

Case: Each question is worth 2 points

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?*
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*

Multiple Choice: Each question is worth 1 point

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*