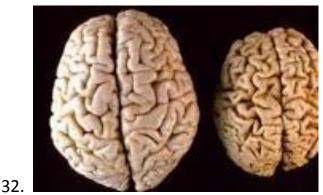
2014 National Science Olympiad Anatomy & Physiology Exam

PLEASE DO NOT WRITE ON THE TEST. ONLY WRITE ON THE ANSWER SHEET

- 1. Name 2 late stage Alzheimer's signs and symptoms. 2 pts.
- 2. What layers of the skin does a partial-thickness burn involve? 1 pt.
- 3. What does the appearance of a partial thickness burn look like? 1 pt.
- 4. Multiple Sclerosis is characterized by what signs and symptoms. (Name 3) 3 pts.
- 5. What age and gender is most frequently affected with Graves disease? 1 pt.
- 6. What are the effects of IgE bound to mast cells after the release of histamine and chemical modifier? 1 pt.
- 7. What hypersensitivity would you expect to see with the above reaction? 1 pt.
- 8. Which lobe of the brain controls reading? 1 pt.
- 9. Which lobe of the brain controls speech? 1 pt.
- 10. Which lobe of the brain controls hearing? 1 pt.
- 11. Which motor system is affected with Parkinson's? 1 pt.
- 12. What is the normal treatment to reduce motor impairment in Parkinson's patients. 1 pt.
- 13. Exophthalmos is characterized and noted for protruding eyes, decreased blinking and decreased eye movements. What autoimmune disease is this related to? 1 pt.
- 14. What physiological reason causes exophthalamos? 1 pt.
- 15. Name two signs and symptoms of Multiple Sclerosis if the cranial nerves are affected. 2 pts.
- 16. What is the rule of nine's used for? 1 pt.
- 17. What is the name of the chart which is the same as the rule of nine's, only for children?

 1 pt.
- 18. With Parkinson's a decreased number of (a) ______ in the substantia nigra secrete (b) _____ which leads to an imbalance btween excitation and inhibition. 2 pts.
- 19. Which motor system is affectd with Parkinson's? 1 pt.

- 20. Name 3 of the early signs and symptoms of Parkinson's Disease. 3 pts.
- 21. What is the normal treatment to reduce motor impairment in Parkinson's patients 1 pt
- 22. Why is dopamine not used in treatment of Parkinson's 1 pt.
- 23. Alzheimer's patients can have symptoms develop anywhere from 10-20 years. Name 3 early stage signs. 3 pts.
- 24. Which lobe controls speech? 1 pt.
- 25. Which lobe controls smell? 1 pt.
- 26. Which lobe controls taste 1 pt.
- 27. Which lobe controls vision? 1 pt.
- 28. What are three of the 4 most common effects of a burn injury? 3 pts.
- 29. What is the responsibility of mast cells in the immune system? 1 pt.
- 30. What do the memory T cells do in the immune system? 1 pt.
- 31. What do cytotoxic (Killer T cells) do in the immune system. 1 pt.



What is the picture above comparing? 5 pts.



What type of skin lesion is this a picture of? 5 pts.



What type of skin lesion is this a picture of? 3 pts.

35. Below are 4 pictures of complications of AIDS. Please name them. 2 pts ea



a.



b.



С



Ч

36. Name the different types of cancerous lesions below. 2 pts ea



a.



b.

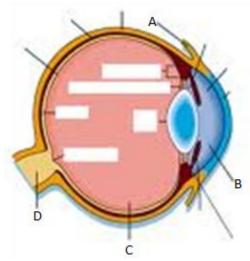


- 37. A man comes to the emergency room with burns covering his left arm, back and posterior left leg. What is the total body area percentage burned? 1 pt.
- 38. A 4 year old male comes to the clinic with a case of Rhus dermatitis. What type of immunologic reaction caused this presentation?
- 39.If a person's brain wave's show the pattern below what is the person's most likely state?

 1 pt.



- 40. What disease is characterized by abnormal muscle tone, reflexes or motor development and coordination? 1 pt.
- 41. What disease is characterized by abnormal muscle tone, reflexes or motor development and coordination? 1 pt.
- 42. Which disease may be diagnosed by evidence of demyelination of the brain or spinal cord and chronic inflammation? 1 pt.
- 43. Which ion is the greatest factor in determining resting membrane potential? 1 pt.
- 44. The major inhibitory neurotransmitter of the central nervous system is? 1 pt.
- 45. Glaucoma results in increased pressure in which of the following structures? 1 pt.



46. Parasympathetic ganglia are located where? 1 pt.