Alcoholism: The Science Made Easy

**Multiple Choice**
*Identify the choice that best completes the statement or answers the question.*

____ 1. **Adolescents**
   Heavy drinking and alcoholism are more common among Jews than Christians.
   A. True  
   B. False

____ 2. Alcohol impairs activity at a receptor called the NMDA receptor. These receptors are located in what region of the brain?
   A. The medial cortex  
   B. The frontal cortex  
   C. Hippocampus  
   D. Amygdala

____ 3. Students tend to have liberal views about what constitutes a single drink. Often, if a student says they have had 3 drinks, they most likely really had 5 or 6.
   A. True  
   B. False

____ 4. What analysis did researchers discover that provided better clues than the DSM-IV of symptomatic alcohol abuse and dependence in adolescents?
   A. LCA  
   B. TBBS  
   C. AUD  
   D. None of the above

____ 5. A recent study has found that adolescents with both alcohol and antisocial problems show an increase in serotonin function.
   A. True  
   B. False

____ 6. What two overall methods does the author mention that are used to change someone’s behavior?
   A. Motivation and Education  
   B. Therapy and Medication  
   C. Enforcement and Education  
   D. Enforcement and Motivation

____ 7. **Biology - Neurobiology**
   Chronic alcoholism is known to damage which two areas of the brain?
   A. Hippocampus and amygdala  
   B. Cerebellum and frontal lobes  
   C. Frontal and medial cortex  
   D. None of the above

____ 8. Researchers have learned that alcohol may be particularly damaging to the brain’s reward pathways, specifically dopamine and serotonin neurons.
   A. True  
   B. False
9. Which 3 factors have been indicated by data as risk factors for alcoholism?
   A. Heavy binge drinking, genetics and adolescent drinking
   B. Genetics, environment and poverty
   C. Heavy binge drinking, childhood trauma and genetics
   D. Genetics, childhood trauma and adolescent drinking

10. According to some estimates, alcohol abuse in the United States is perhaps the number one cause of brain damage.
   A. True
   B. False

11. Prolonged abstinence from alcohol appears to allow some reversal of structural brain damage.
   A. True
   B. False

12. Wernicke’s Encephalopathy (WE) is a fatal disorder caused by what vitamin deficiency?
   A. Calcium
   B. Magnesium
   C. Potassium
   D. Thiamin

13. As a result of alcohol abuse, the stress hormone cortisol is known to increase through a variety of mechanisms.
   A. True
   B. False

14. Research has shown that mice that don’t drink alcohol lack what opioid receptor?
   A. mu
   B. delta
   C. kappa
   D. phi

15. What is the other known name for behavioral sensitization?
   A. Reward pathways
   B. Reverse tolerance
   C. MK-801
   D. None of the above

16. Gender, Ethnicity & Culture
   The phenomenon where women need to drink less than men, for a shorter amount of time, to have the same adverse impact is known as “telegraphing”.
   A. True
   B. False

17. What percentage of the human brain is composed of water?
   A. 40%
   B. 75%
   C. 80%
   D. 90%
18. One study of veterans with alcoholic liver disease found that African Americans appear to be at greater risk for infectious diseases and have higher mortality rates.
   A. True   B. False

19. What population was found to have the highest cirrhosis mortality rates?
   A. African American males   B. White females
   C. White Hispanic males   D. Asians

20. Mexican-Americans tend to have a lower level of arrests for DUI offenses than other populations.
   A. True   B. False

21. Much of what has been known in the past about alcohol use among American Indians was anecdotal, stereotypical and fueled by bias according to a senior research scientist at Colorado University.
   A. True   B. False

22. **Genetics & Other Risk Factors**
   This neurotransmitter is a key modulator influenced by genetics, early stress experiences, and alcohol:
   A. Dopamine   B. Serotonin
   C. Cortisol   D. None of the above

23. Serotonergic dysfunction has been linked to a number of psychiatric disorders as well as alcoholism.
   A. True   B. False

24. The primary role of serotonin appears to be that of an inhibitor.
   A. True   B. False

25. Individuals may be able to identify their risk of developing alcoholism through a noninvasive measure of this electrical brain activity:
   A. P300   B. Event-related potential
   C. ERP   D. All of the above

26. Studies have shown that people who have an anxiety disorder, but are not anxious at the time of testing, have high P300 amplitudes, suggesting they may be at risk for anxiety disorders and alcoholism.
   A. True   B. False
27. What hormone is manufactured within the endogenous opioid system of the brain and produces euphoria much like morphine?
   A. A-4  
   B. P-300  
   C. B-E  
   D. None of the above

28. Genetic factors are believed to contribute to what percentage of the risk of developing alcoholism?
   A. 40%  
   B. 55%  
   C. 60%  
   D. 75%

29. This part of the brain, critical for judgement and decision making, is considered corrupted by addiction.
   A. Cerebellum  
   B. Hippocampus  
   C. Executive cortex  
   D. Brain stem

30. Some genes are used or “turned on” in each cell. This is known as **gene expression**.
   A. True  
   B. False

31. Genetic differences in individuals play no role in alcohol sensitivity.
   A. True  
   B. False

32. Two enzymes important in metabolizing alcohol are **ADH** and **ADLH**.
   A. True  
   B. False

33. **Mental Health**
   New research has found that adult male alcoholics with antisocial personality disorder have abnormally low emotional responsiveness.
   A. True  
   B. False

34. Which childhood disorder is a precursor to antisocial personality disorder and a major risk factor for adolescent alcohol and drug use?
   A. ADD  
   B. ADHD  
   C. Conduct Disorder  
   D. PTSD

35. Research indicates that childhood abuse is an important factor for the presence of comorbid anxiety disorders in alcoholics, particularly regarding:
   A. Social Phobia  
   B. Agoraphobia  
   C. Post Traumatic Stress Disorder  
   D. All of the above

36. Due to inadequate screening measures in alcoholic patients, this disorder is often under diagnosed:
A. ASPD  B. PTSD  C. Social Phobia  D. Depression

37. People with high anxiety sensitivity (AS) have a fear of anxiety symptoms.
   A. True  B. False

38. According to the New England Journal of Medicine, one quarter of the general population has thought about suicide at some point in their lives.
   A. True  B. False

39. **Pharmacology**
The term *kindling* refers to:
   A. Alcohol withdrawal syndrome  B. Increased sensitivity to stimulus by the nervous system  C. Brain seizures  D. A fatal increase in body temperature

40. Naltrexone, an opioid antagonist, decreases the rewarding effects of drinking and reduces craving for alcohol.
   A. True  B. False

41. When opioids are stimulated, levels of this neurotransmitter are increased, leading to the “high” associated with a variety of drugs:
   A. Serotonin  B. Dopamine  C. Cortisol  D. All of the above

42. **Physical Health**
An increase in this protein indicates that the immune system is responding to an infection:
   A. A10  B. Ki67  C. ALDH2  D. IgE

43. Acetaldehyde is the first product of alcohol metabolism.
   A. True  B. False

44. Alcohol is metabolized principally in the liver by the two enzymes, ADH and ALDH, that act sequentially.
   A. True  B. False

45. This molecule is involved in allergic diseases and has shown increased values in alcoholics:
   A. PTH  B. ALDH-2  C. IgE  D. AcHO
46. The most common form of osteoporosis occurs in elderly women and is caused by a deficiency in progesterone.
   A. True  B. False

47. Sensitivity to this mineral in alcoholics is a contributing factor in the elevation of blood pressure.
   A. Sodium  C. Calcium
   B. Potassium  D. Magnesium

48. Chronic alcohol abuse damages hormones that regulate the body’s water and electrolyte balance.
   A. True  B. False

49. **Pregnancy, Prenatal Exposure & Parenting**
   Alcohol-related birth defects are closely associated with an alteration in the functioning of this hormone gland:
   A. Pituitary gland  C. Adrenal gland
   B. Pineal gland  D. Thyroid gland

50. According to the U.S. Department of Health and Human Services, 1996 data revealed what percent of women used alcohol during pregnancy?
   A. 5%  C. 18%
   B. 12%  D. 25%

51. Prenatal alcohol exposure is the leading cause of known origin for mental retardation in the industrialized world.
   A. True  B. False

52. In Denmark, all pregnant women are offered and most take advantage of free prenatal care at centers run by the government.
   A. True  B. False

53. The ADH2*2 allele provides no protection against and/or resistance to developing Fetal Alcohol Syndrome.
   A. True  B. False

54. **Prevention, Intervention & Treatment**
   According to Michael Fleming, director of the Family Medicine Research Program at the University of Wisconsin-Madison, if physicians spend 5 to 10 minutes talking to their patients about alcohol use, what percent of their patients will significantly decrease their alcohol use?
   A. 5% to 10%  C. 25% to 30%
B. 15% to 20%  
D. 35% to 40%

55. The CAGE screening instrument outperformed the RAPS4 among populations examined.
   A. True  
   B. False

56. In-person brief interventions are best directed toward those who are alcohol dependent rather than those who engage in hazardous drinking and/or abuse of alcohol.
   A. True  
   B. False

57. **Violence & Injury**
   According to the National Coalition Against Domestic Violence, 33 percent of American women experience domestic violence.
   A. True  
   B. False

58. According to a study published in the January 2001 issue of Alcoholism: Clinical and Experimental Research, among working-age adults who are not substance abusers, women are much less likely to be injured than men.
   A. True  
   B. False

59. According to the same study, by age 50 researchers found that substance abusers were significantly more likely to get injured if they were women.
   A. True  
   B. False

60. Once considered a personality defect, we now know that there is a genetic basis for the predisposition to addiction in many individuals.
   A. True  
   B. False