Test Bank Template

Chapter 1: Substance Use Disorder and Addiction: Basic and Brief Psychopharmacological and Neuropsychological Review

Multiple Choice Questions:

1. Cocaine is NOT associated with which neurotransmitter?
a. Serotonin
b. Dopamine
***c. Acetylcholine**
d. Norepinphrine
Answer Location: Page 5

2. This type of administration occurs orally.
a. Transdermal
b. Intranasal
c. Parenteral
***d. Enteral**
Answer Location: Page 10

3. This type of administration involves injecting and "skin popping."
a. Transdermal
b. Intranasal
***c. Parenteral**
d. Enteral
Answer Location: Page 10

4. This type of administration is associated with snorting of a substance.
a. Transdermal
***b. Intranasal**
c. Parenteral
d. Enteral
Answer Location: Page 10

5. This type of administration is via absorption through the skin.
***a. Transdermal**
b. Intranasal
c. Parenteral
d. Enteral

Answer Location: Page 10

6. This type of compound mixes easily with blood plasma and moves easily throughout the body.
a. Lipid-soluble
***b. Water-soluble**
c. Both a and b
d. Neither a nor b
Answer Location: Page 11

7. This type of compound must bind with other molecules in order to move throughout the body.
***a. Lipid-soluble**
b. Water-soluble
c. Both a and b
d. Neither a nor b
Answer Location: Page 11

8. A set *amount* of a substance being biotransformed per each hour is indicative of what type of biotransformation?
***a. Zero-order**
b. First-order
c. Depends on the substance
d. Depends on the administration
Answer Location: Page 11

9. A set *percentage* of a substance being biotransformed per each hour is indicative of what type of biotransformation?
a. Zero-order
***b. First-order**
c. Depends on the substance
d. Depends on the administration
Answer Location: Page 11

10. The time a substance takes to make it into general circulation is:
***a. distribution half-life**
b. therapeutic half-life
c. elimination half-life
d. administration half-life
Answer Location: Page 12

11. The time the body takes to inactivate 50% of the substance ingested:
a. distribution half-life

***b. therapeutic half-life**
c. elimination half-life
d. administration half-life
Answer Location: Page 12

12. The time the body takes to eliminate 50% of a single dose of the substance ingested:
a. distribution half-life
b. therapeutic half-life
***c. elimination half-life**
d. administration half-life
Answer Location: Page 12

13. This type of half-life focuses on the time it takes for the concentration of a substance to decline and is used to determine if a substance (such as benzodiazepines) are short, medium, or long acting.
a. Alpha half-life
***b. Beta half-life**
c. Elimination half-life
d. Therapeutic half-life
Answer Location: Page 12

14. Wernicke–Korsakoff Syndrome (WKS) is typically associated with what substance?
a. Cocaine
b. Heroin
***c. Alcohol**
d. Methamphetamine
Answer Location: Page 14

15. In Cocaine users, increased linkages to the hippocampus and amygdala may explain how intense craving is linked with:
a. vulnerability to drug-related stimuli
b. impaired judgment
c. cocaine-associated memories
***d. all of the above**
Answer Location: Page 15

16. As per Soyka et al. (2011), Opiates impair cognitive functioning in the following areas:
a. frontal cortex
b. cerebellum
c. hippocampus
***d. both a and c**
Answer Location: Page 15

17. Methamphetamine users show symptoms consistent with frontal systems dysfunction; these symptoms include:
a. apathy
b. impulsivity
c. sensation seeking
***d. all of the above**
Answer Location: Page 16

18. As per Brickman's Model, the belief that the individual is responsible for their addiction development and their relapse is termed:
***a. moral**
b. spiritual
c. compensatory
d. disease
Answer Location: Page 18

19. As per Brickman's Model, the addictions counselor use of neuropsychology to account for the client responsibility related to addiction development and relapse is termed:
a. moral
b. spiritual
***c. compensatory**
d. disease
Answer Location: Page 18

20. As per Brickman's Model, the applicability of the 12-Step Philosophy is most associated with an area that is termed:
a. moral
***b. spiritual**
c. compensatory
d. disease
Answer Location: Page 18

True/False Questions:

21. MDMA is associated with Dopamine.
a. True
***b. False**
Answer Location: Page 5

22. Methamphetamine is associated with multiple neurotransmitters.
***a. True**

b. False
Answer Location: Page 5

23. Nicotine is associated with Acetylcholine.
***a. True**
b. False
Answer Location: Page 5

24. Glutamate increases neuron activity.
***a. True**
b. False
Answer Location: Page 5

25. GABA increases neuron activity.
a. True
***b. False**
Answer Location: Page 5

Essay Questions:

26. Explain some of the common neurocognitive deficits in those with substance use disorder (SUD) and how they impede traditional SUD treatment.

Suggested Answer: Numerous deficits exist—some substance-specific and some across all/many substances—that impede treatment early on in the process. These include deficits in attention, executive functioning, emotion regulation, memory impairments, abstract reasoning and cognitive flexibility, and the deterioration of brain white matter, which may impact stress response and decision-making. Now, think about the way SUD treatment is implemented for an individual new to recovery. Long treatment groups, emphases on self-reflection, attention to history-related data, personal growth homework, and the need to understand the social cues so to be an effective group member all are skills that require a neurocognitive level of functioning that is perhaps beyond what the new to treatment SUD client can reasonably demonstrate. Consequently, what may be declared "denial" or "resistance" may simply be a person who lacks certain neurocognitive skills and either cannot function or just shuts down/drops-out due to the frustration with the unspoken/unknown mismatch between treatment demands and neurocognitive capabilities.
Answer Location: Pages 14–19

27. Describe the different types of half-life and their importance regarding substance use.

Suggested Answer: Distribution half-life is the amount of time it takes for a substance to enter circulation. This is a critical issue for medications involved with pain management as the patient

and physician wants the medication to start controlling pain as quickly as possible. Distribution half-life has two components. The alpha half-life is the period after peak blood concentrations for the substance whereas the beta half-life is the time frame before the substance concentration in the system begins to decline. Regarding benzodiazepines, the beta half-life plays a role in where the drug is a short, medium, or long-acting benzodiazepine. Therapeutic half-life is the time to inactivate 50% of the substance whereas the elimination half-life is the time to eliminate 50% of a single dose of a substance from the body.
Answer Location: Page 12

28. Briefly explain using biotransformation how/why someone gets drunk on alcohol.

Suggested Answer: In the zero-order biotransformation process, the biotransformation mechanism(s) can quickly become saturated if a large amount of the substance is taken. Despite the potentially heavy concentration of that substance in the blood, only a set amount can be biotransformed each hour. If an individual drinks alcohol more rapidly than the body can metabolize it, intoxication occurs as the excess alcohol "backs-up" in the circulation and waits in line to be biotransformed. It is that alcohol waiting to be biotransformed that causes the BAL to rise and—if enough alcohol is present—intoxication to occur.
Answer Location: Page 11