

Addiction Science Fundamentals

Addiction Science · Answer Key · 25 Questions

1. Which neurotransmitter is most commonly associated with the brain's reward system and the reinforcement of addictive behaviors?

- A) Serotonin
- B) Dopamine**
- C) Acetylcholine
- D) Glutamate

2. In addiction science, what is the term for the physiological state where a person needs a higher dose of a substance to achieve the same effect?

- A) Withdrawal
- B) Tolerance**
- C) Craving
- D) Relapse

3. Which brain region is primarily responsible for executive functions like decision-making and impulse control, which can be impaired by chronic substance use?

- A) Prefrontal cortex**
- B) Cerebellum
- C) Brainstem
- D) Occipital lobe

4. What is the primary psychoactive ingredient found in tobacco products that leads to physical dependence?

- A) Tar
- B) Nicotine**
- C) Carbon monoxide
- D) Ammonia

5. The condition where an individual experiences physical and mental symptoms after stopping the use of a substance they are dependent on is called:

- A) Adaptation
- B) Withdrawal**
- C) Tolerance
- D) Sensitization

6. Which of the following substances is classified as a central nervous system depressant?

- A) Caffeine
- B) Nicotine
- C) Alcohol**
- D) Cocaine

7. Which organ is responsible for metabolizing the vast majority of alcohol consumed by the human body?

- A) Kidneys
- B) Liver**
- C) Stomach
- D) Pancreas

8. What does the term 'addiction' officially refer to in clinical terminology, such as in the DSM-5?

- A) Substance Use Disorder**
- B) A moral failing
- C) A lack of willpower
- D) Bad habits

9. Which of these is a common behavioral addiction recognised by many health organisations?

- A) Gambling disorder**
- B) Reading addiction
- C) Shopping addiction
- D) Television addiction

10. What is the main psychoactive chemical compound found in cannabis?

- A) CBD
- B) THC**
- C) CBN
- D) CBG

11. Opioids exert their effects by binding to specific receptors located in the:

- A) Heart
- B) Central nervous system**
- C) Digestive tract
- D) Skin

12. Chronic drug use can lead to long-lasting changes in the brain's structure and function; this process is known as:

- A) Neural plasticity
- B) Neuroadaptation**
- C) Cognitive decline
- D) Homeostasis

13. Which of these substances is a powerful stimulant?

- A) Heroin
- B) Alcohol
- C) Cocaine**
- D) Morphine

14. What is the 'reward pathway' in the brain scientifically known as?

- A) Mesolimbic pathway**
- B) Visual pathway
- C) Auditory pathway
- D) Somatosensory pathway

15. Which class of drugs is primarily used to relieve pain?

- A) Stimulants
- B) Opioids**
- C) Hallucinogens
- D) Inhalants

16. In addiction science, 'cue-induced craving' refers to what?

- A) Craving triggered by environmental reminders**
- B) Craving caused by hunger
- C) Craving caused by weather
- D) Craving caused by exercise

17. What is the role of Naloxone in addiction medicine?

- A) To act as a stimulant
- B) To reverse an opioid overdose**
- C) To reduce cravings for alcohol
- D) To prevent nicotine absorption

18. Which of the following is considered a 'gateway' substance by some researchers, though the theory is heavily debated?

- A) Water
- B) Nicotine**
- C) Protein
- D) Fiber

19. What do researchers call the phenomenon where addictive substances make 'natural' rewards (like food or social interaction) seem less pleasurable?

- A) Hypofrontality
- B) Reward deficiency syndrome**
- C) Tolerance increase
- D) Synaptic pruning

20. Alcohol is classified as which type of psychoactive substance?

- A) Stimulant
- B) Depressant**
- C) Hallucinogen
- D) Antipsychotic

21. Which neurotransmitter deficiency is often associated with the 'crash' experienced after stimulant use?

- A) Dopamine**
- B) Melatonin
- C) Insulin
- D) Thyroxine

22. What does 'detoxification' primarily aim to achieve in addiction treatment?

- A) Eliminating all cravings forever
- B) Clearing the substance from the body safely**
- C) Changing the personality of the patient
- D) Improving memory

23. The 'hedonic set point' refers to:

- A) The brain's baseline level of pleasure**
- B) A method of drug delivery
- C) The cost of a substance
- D) The legal status of a drug

24. Which of these is a known long-term health consequence of chronic alcohol abuse?

A) Cirrhosis of the liver

B) Increased lung capacity

C) Improved vision

D) Stronger bones

25. Why are adolescent brains considered more vulnerable to the effects of addictive substances?

A) Because they are still developing

B) Because they have more neurons

C) Because they are physically smaller

D) Because they have higher blood pressure