

BIOLOGY IN HUMAN WELFARE

Drugs and Alcohol Abuse

A Clinical and Botanical Overview
of Major Drug Classifications

Exam-Focused Primer | Section 7.5

Medicinal Use

Regulated, therapeutic purposes.



Taken in harmful
amounts/frequency
OR
for non-medicinal
purposes.

Drug Abuse

Results in functional
impairment.

[Physical]

[Physiological]

[Psychological]

The Source Material

The majority of commonly abused drugs are obtained from flowering plants (with some derived from fungi).



Opioids

Extracted from the latex of the poppy plant (*Papaver somniferum*).



Cannabinoids

Obtained from the inflorescences, flower tops, leaves, and resin of *Cannabis sativa*.



Coca Alkaloids

Extracted from the coca plant (*Erythroxylum coca*), native to South America.



You've Learned the Theory. Let's Test Them Now.

$$E=mc^2$$



Turn theory into marks with **unlimited MCQs, smart analysis, and focused revision.**

Practice Now



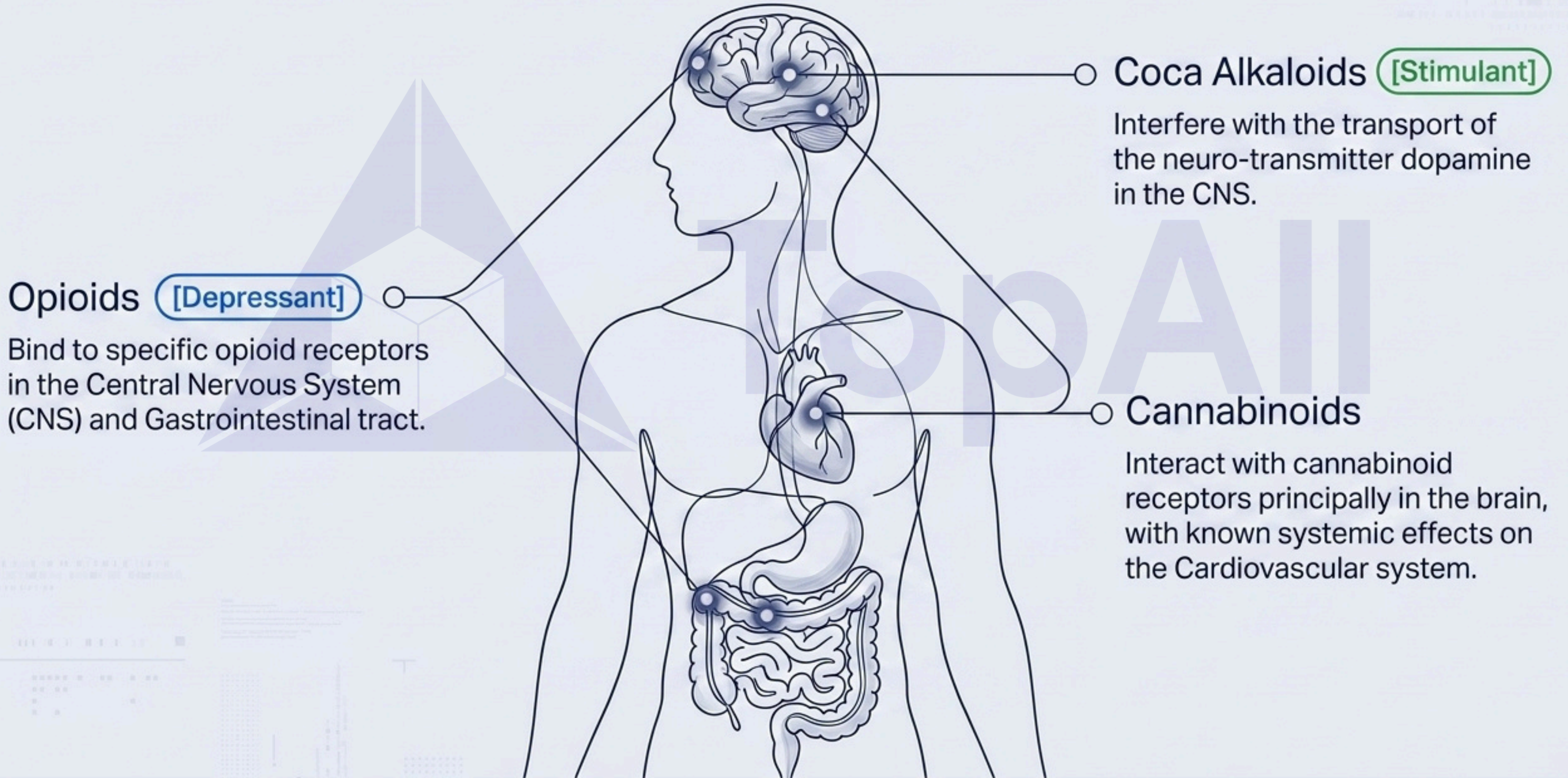
At prep.topall.app

Key Highlights

- » Free Study Material, Videos & Infographics
- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
- » Track Your Performance Smarter



Mechanisms of Action



Clinical Comparison Matrix

Drug Class	Common Names	Mode of Intake	Primary Clinical Effects
Opioids	Heroin (Smack) — Note: chemically diacetylmorphine, a white/odourless/bitter crystal	Snorting, Injection	Depressant; slows down body functions.
Cannabinoids	Marijuana, Hashish, Charas, Ganja	Inhalation, Oral ingestion	Pronounced effects on the cardiovascular system.
Coca Alkaloids	Cocaine, Coke, Crack	Snorting	Potent CNS stimulant; produces euphoria and increased energy. Excessive dosage causes hallucinations.

Key Takeaways

1

The Clinical Definition

Abuse is not defined merely by the substance, but by the threshold of functional impairment (physical, physiological, or psychological) and non-medicinal intent.

2

Botanical Extraction

The three major classes of abused drugs—opioids, cannabinoids, and coca alkaloids—are primarily derived from the extracts, resins, and latex of flowering plants.

3

Receptor Specificity

These drugs exert their profound effects by hijacking specific natural biological pathways, such as CNS/GI opioid receptors, cannabinoid brain receptors, and dopamine transport systems.



You've Learned the Theory.

Now Let's Test It.

Reading notes gets you knowledge.

Practicing MCQs gets you marks.

That's exactly what TopAll Pro is built for.

Try TopAll Pro Now

What TopAll Pro Does Differently

-  **Stuck? Snap it. Solve it. — Doubts AI**
Photo → step-by-step solution in seconds, 24/7
-  **Your AI Coach finds your blind spots**
Concept-level weakness detection — not just chapter-level
-  **4.5 Lakh+ questions. Never run out.**
13× more content than any other prep app in India
-  **Build your own test in 60 seconds**
Pick a chapter, set difficulty — AI does the rest instantly.
-  **AI Recommendation that helps you improve**
AI Recommendation Analysis your Tests and tell you where you need to improve.



Practice the moment you finish studying
Jump in while the concept is still fresh in your head

4.5L+
MCQs

1.5L+
Students

AI Powered
In-Depth Analysis