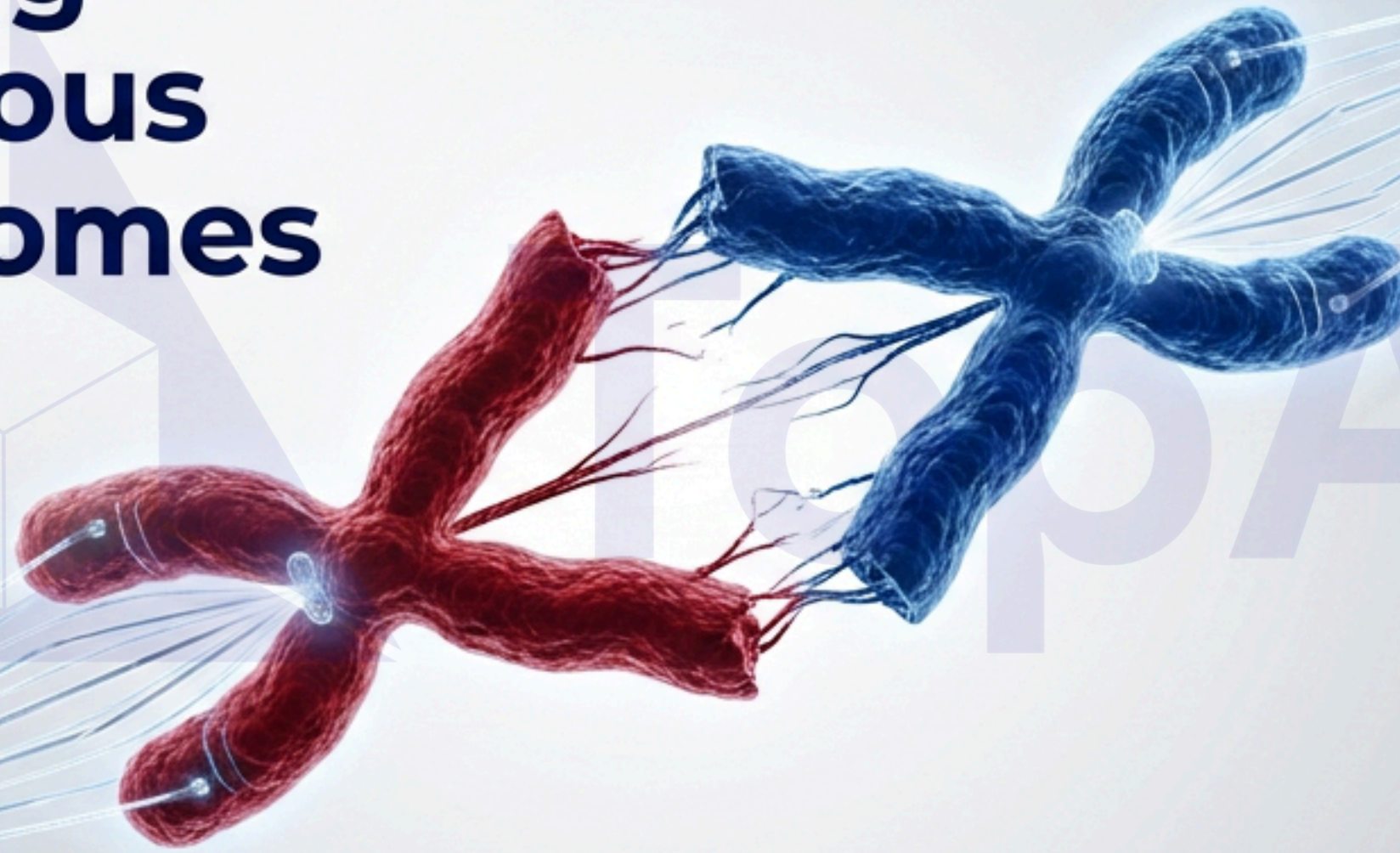


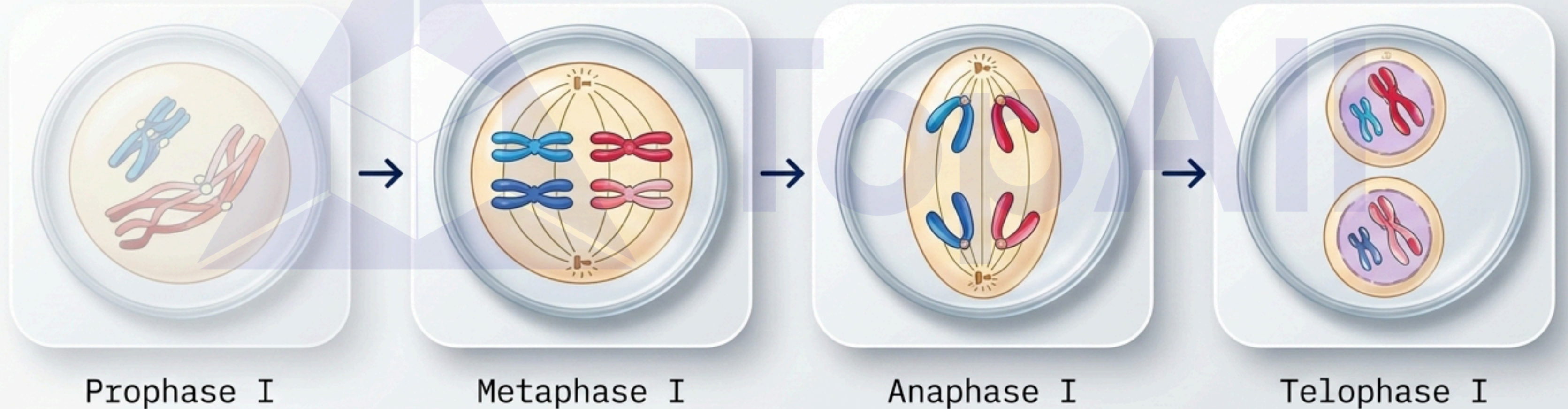
MEIOSIS I: PART II

Separating Homologous Chromosomes



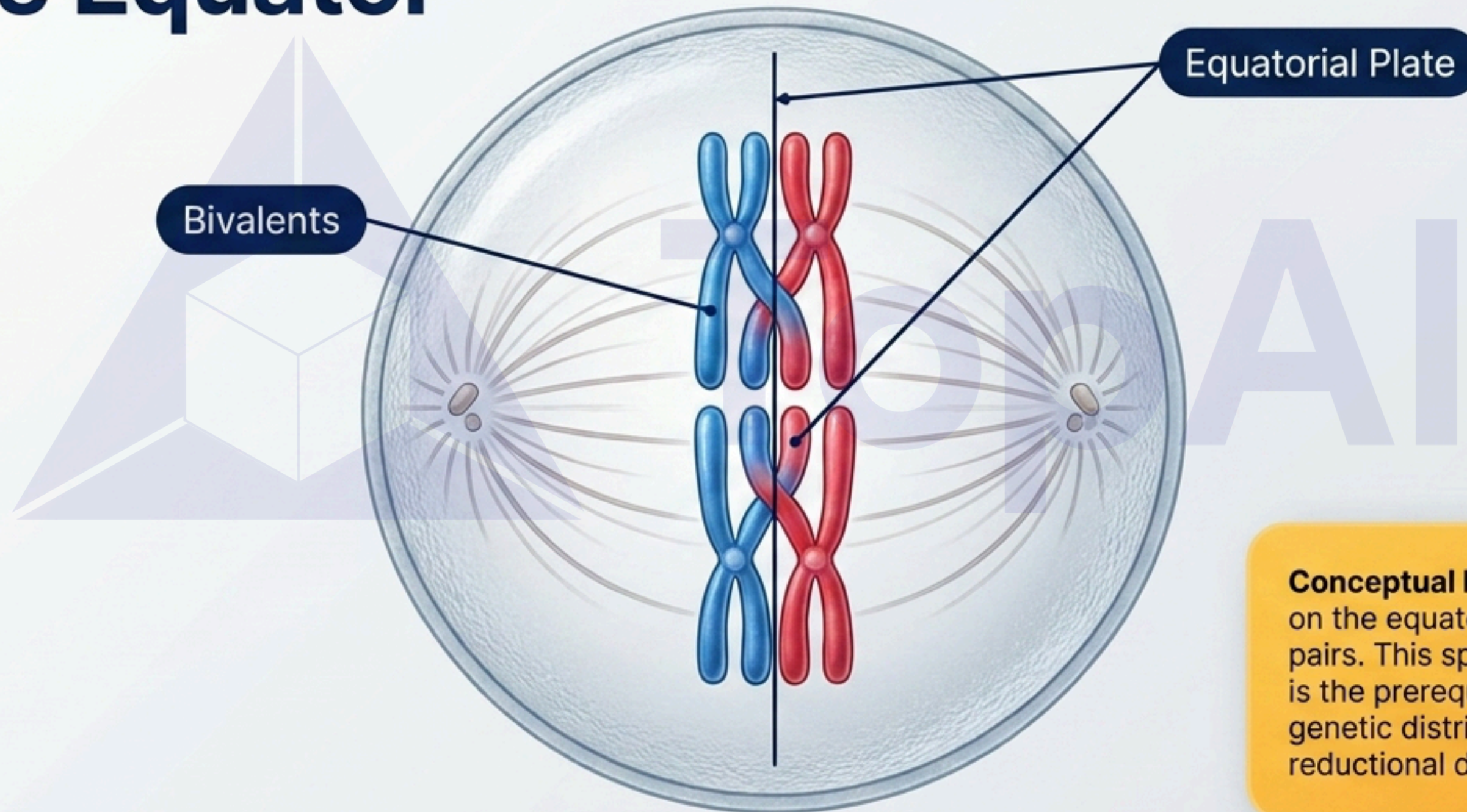
The Architecture of Reduction

Following the complex recombination of Prophase I, the cell now executes a precise mechanical sequence to halve its genetic material.



STAGE: METAPHASE I

Precision Alignment at the Equator



Conceptual Key: Bivalents align on the equatorial plate as intact pairs. This spatial arrangement is the prerequisite for correct genetic distribution and reductional division.



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

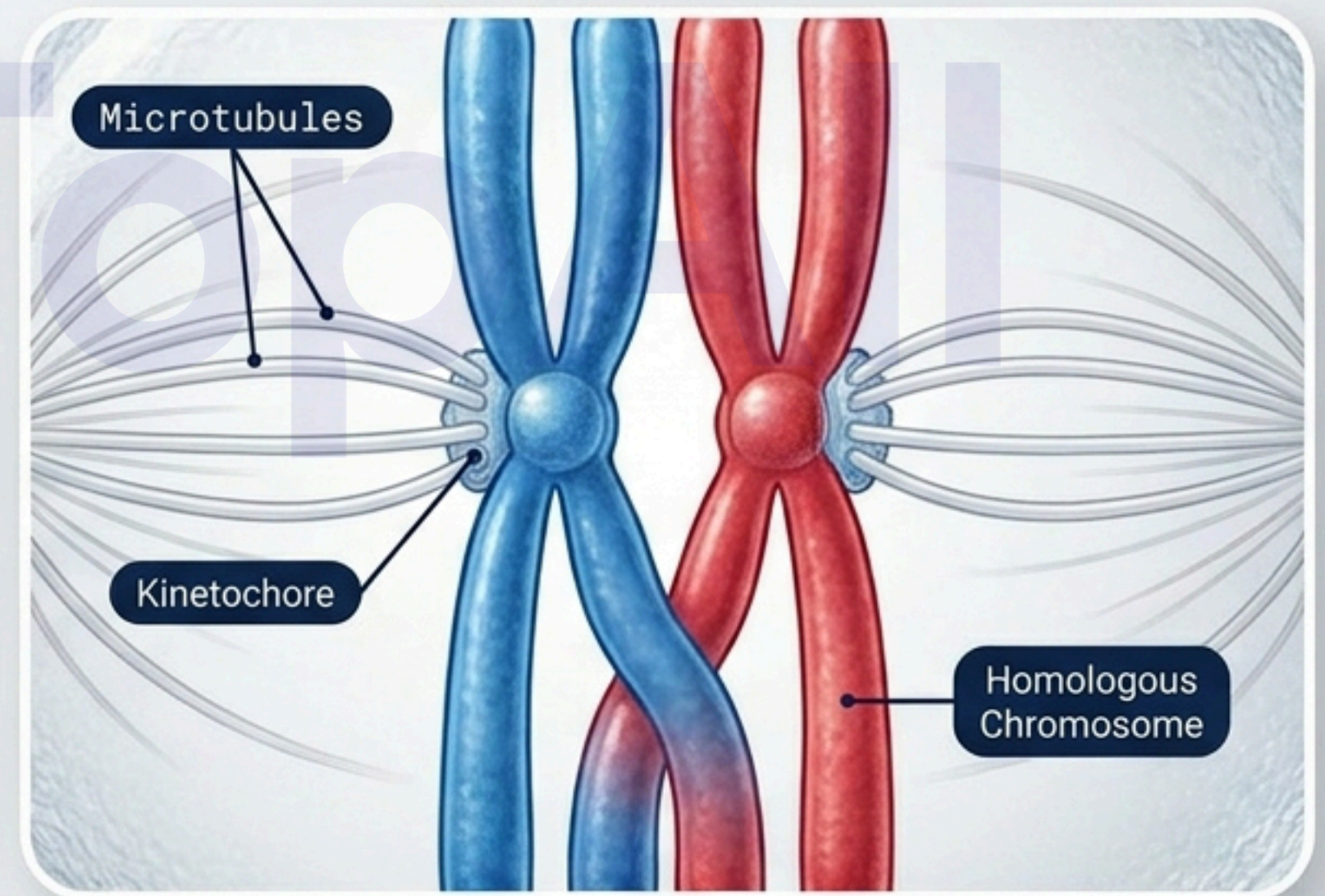
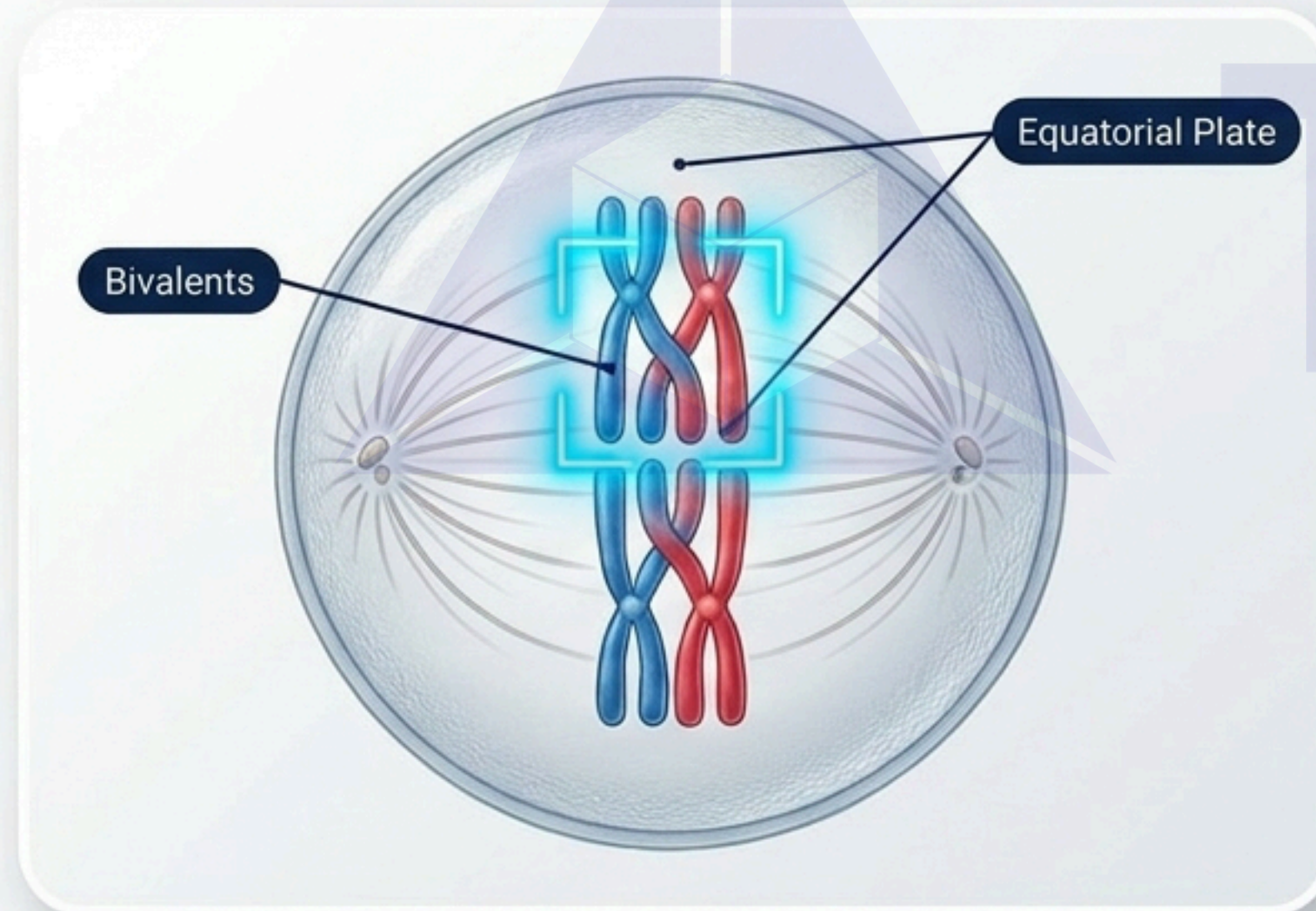
- » Free Study Material, Videos & Infographics
- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
- » Track Your Performance Smarter



STAGE: METAPHASE I

Spindle Attachment and Mechanical Tension

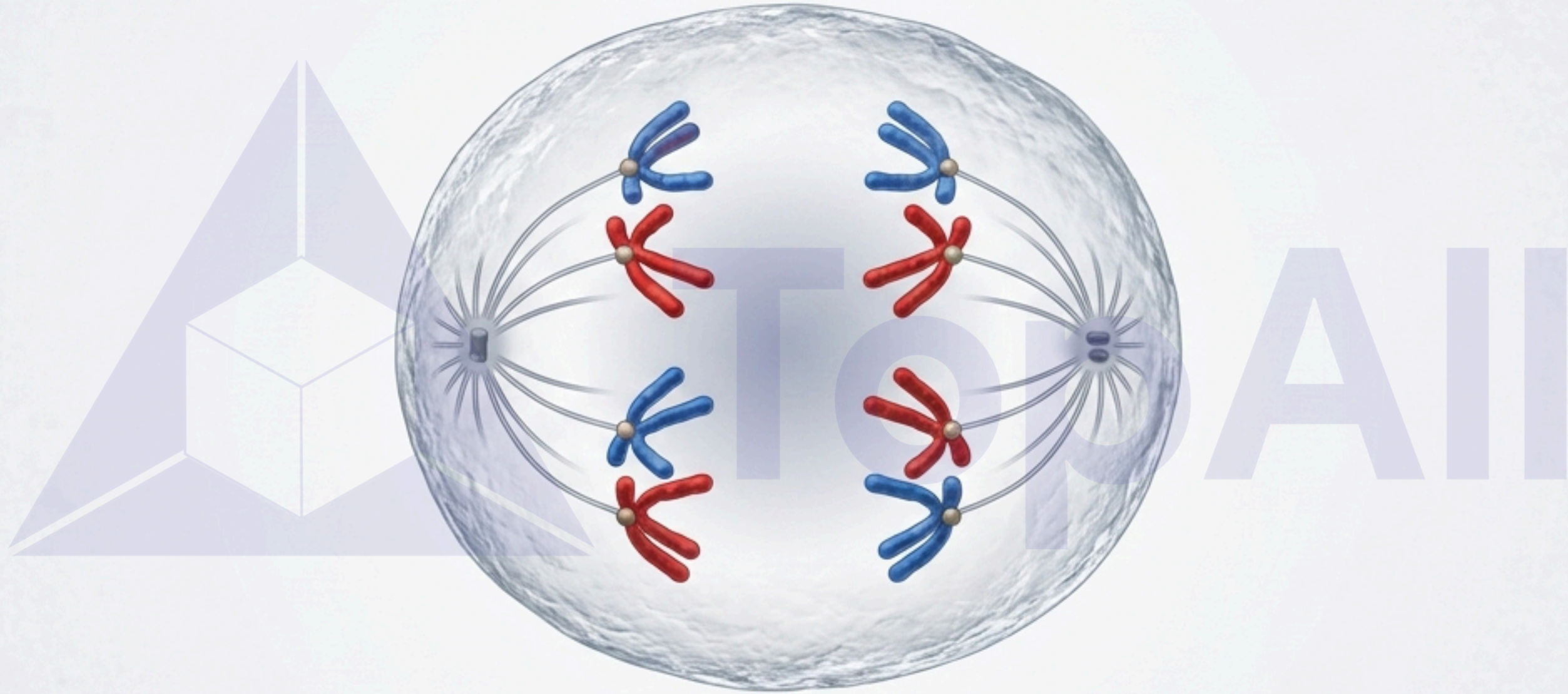
Microtubules from opposite poles of the spindle attach to the kinetochores of homologous chromosomes—setting the stage for whole chromosomes to be pulled, rather than split.



STAGE: ANAPHASE I

Ploidy Status: Transitioning to n

The Moment of Reductional Division



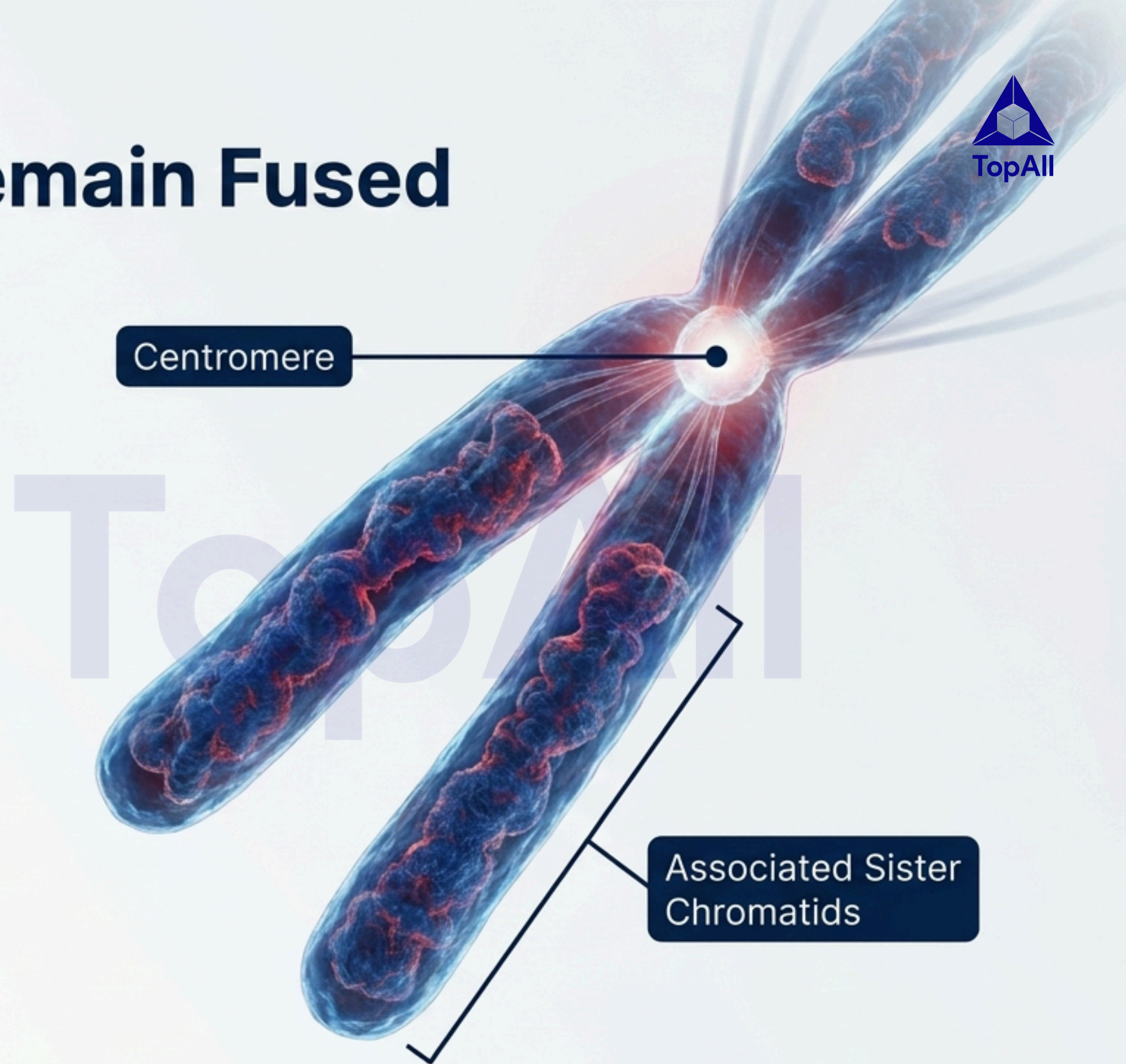
Core Outcome: Homologous pairs separate, effectively halving the chromosome number for the future daughter cells.

STAGE: ANAPHASE I

Sister Chromatids Remain Fused



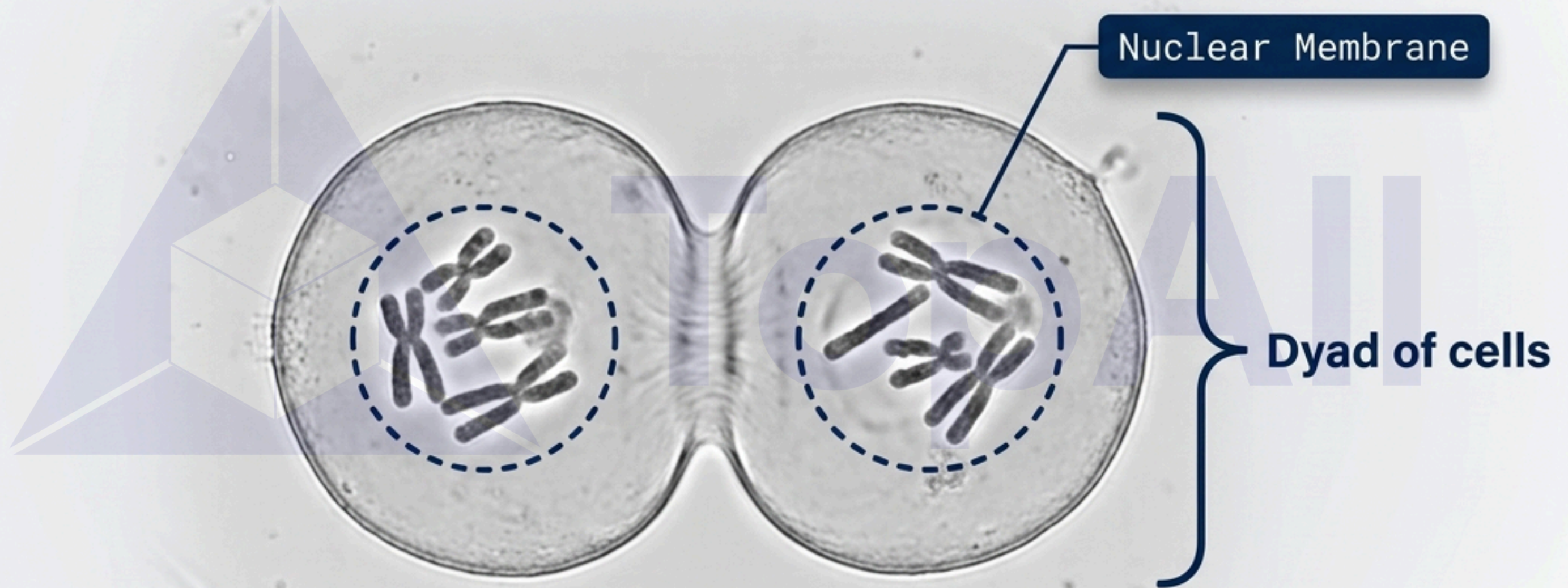
Crucial Distinction:
Unlike mitotic **anaphase**, the centromeres DO NOT split. Sister chromatids remain physically bound together during their migration to the poles.



STAGE: TELOPHASE I

Constructing the Dyad of Cells

Chromosomes:
Haploid (n)



The chromosomes cluster at opposite poles as the nuclear membrane and nucleolus reappear. Cytokinesis follows, yielding two distinct haploid cells.

The Interkinesis Pause

Interkinesis
Duration Short-lived
Chromosomes Extended but not fully uncoiled
DNA Synthesis  NO DNA REPLICATION

Interphase
Duration Long duration
Chromosomes Highly extended chromatin
DNA Synthesis  DNA Replication occurs (S phase)

Interkinesis acts as a brief transitional pause. Because the sister chromatids are already duplicated, the cells proceed directly into Prophase II without synthesizing new DNA.



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