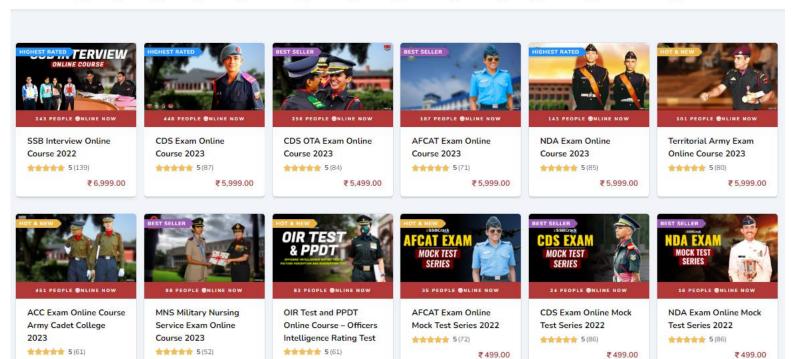


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NASA Recovers 98% Water From Urine & Sweat On ISS Breakthrough In Long Space Missions

Why In The News?

- NASA Achieves New Milestone On ISS, Recovers Water From Astronauts' Pee And Sweat Through A Water Recovery System Which Is Part Of The ECLSS Hardware Combo.
- The Water Processor Assembly (WPA), Which Creates Drinkable Water, Receives Wastewater From This System And Processes It.

THE TIMES OF INDIA

Nasa recovers 98% water from urine and sweat on ISS; breakthrough to help in long space missions

What Do We Know?

- Transporting Fresh Water During Space Missions Isn't Viable, So Astronauts
 Consume Recycled Fluids To Meet Their Needs. This Means That Astronauts
 Recycle Their Pee, Among Other Things, To Ensure They Remain Hydrated
 Outside Of Earth.
- NASA Engineers Have Been Working On A System To Recover Water By Recycling Astronauts' Breath, Sweat, And Urine Through A System Of Filters And Processors. For Years, Different Variations Of The Machinery Have Been Used On The International Space Station (ISS).



How The Recycling Mechanism Works?

- NASA Announced That Its Engineers Were Able To Create A New System That Can Effectively Recycle 98% Of All Astronaut Fluids To Produce Drinking Water, A Jump From The Previous Level Of 94%.
- This Is Made Possible Through The Station's Environmental Control And Life Support System (ECLSS) That Is Made Up Of Various Pieces Of Hardware Including The Water Recovery System And The Water Processor Assembly.
- Water Is Recovered From The Urine Processor Assembly (UPA) Using Vacuum Distillation. Distillation Produces Water And A Urine Brine That Still Contains Some Reclaimable Water.



- A Brine Processor Assembly (BPA) Developed To Extract This Remaining
 Wastewater Has Been On The Space Station As A Demonstration Of Its
 Operation In Microgravity. Recent Assessments Found That The BPA Helped
 The System Achieve The 98% Water Recovery Goal.
- Such Levels Mark A Very Important Step Forward In The Evolution Of Life
 Support Systems For Astronauts. Let's Say You Collect 100 Pounds Of Water On The Station. You Lose 2 Pounds Of That And The Other 98% Just Keeps Going Around And Around.



Is It Safe For The Astronauts?

- The Creators Of These Systems Say That This Water Is "Far Superior" To What We Drink From Municipal Water Systems On Earth. "The Processing Is Fundamentally Similar To Some Terrestrial Water Distribution Systems, Just Done In Microgravity.
- The Crew Is Not Drinking Urine. They Are Drinking Water That Has Been Reclaimed, Filtered, And Cleaned Such That It Is Cleaner Than What We Drink Here On Earth.

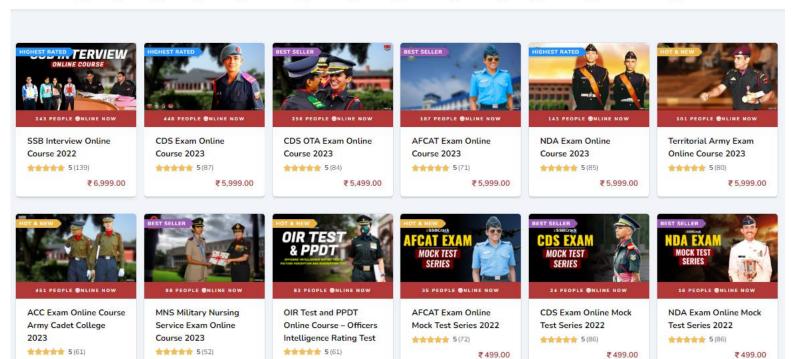






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