



24 August 2024

National and International News

<p><b>SPICED scheme</b></p>	<p><b>Why in the news?</b></p> <ul style="list-style-type: none"> <li>The <b>Spices Board of India</b> launched the <b>SPICED scheme</b> to enhance <b>spice exports</b>, improve <b>cardamom productivity</b>, and <b>upgrade post-harvest spice quality</b> for exports.</li> </ul> <p><b>About SPICED scheme :</b></p> <ul style="list-style-type: none"> <li><b>Scheme Name:</b> "Sustainability in Spice Sector through Progressive, Innovative, and Collaborative Interventions for Export Development" (SPICED).</li> <li><b>Duration and Funding:</b> The scheme will be <b>implemented till FY 2025-26</b>, with an approved outlay of ₹422.30 crore during the <b>15th Finance Commission cycle</b>.</li> <li><b>Objectives:</b> <ul style="list-style-type: none"> <li><b>Value Addition and Innovation:</b> Facilitate value-addition and drive innovation in the spice sector.</li> <li><b>Sustainability:</b> Promote sustainability in the spice sector.</li> </ul> </li> <li><b>Key Components:</b> <ul style="list-style-type: none"> <li>Mission Value Addition</li> <li>Mission Clean and Safe Spices</li> <li>Promotion of GI-tagged spices</li> <li>Support for Entrepreneurship through Spice Incubation Centres</li> </ul> </li> </ul>
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Quantum Nonlocality

Why in the news?

- Scientists have shown that it is **not possible to establish a universal standard** for measuring and quantifying non-local quantum correlations.

About Quantum Nonlocality:

- **Classical Physics and Locality:** Classical physics assumes the **principle of locality, where objects are influenced only by their immediate surroundings.**
- **Quantum Mechanics and Nonlocality:** Quantum mechanics introduces the **principle of nonlocality, where objects appear to instantaneously know about each other's state, regardless of the distance between them.**
- **Contradiction with Speed of Light:** Nonlocality challenges Einstein's principle that **nothing can travel faster than the speed of light, suggesting that instantaneous action or information transfer might be possible in the quantum world.**
- **Entanglement:** Nonlocality arises due to **quantum entanglement, where particles that interact become permanently correlated and lose their individuality, behaving as a single entity.**
- **Universal Connection:** Nonlocality implies that **different parts of the universe may be connected in an intimate and immediate way, contrary to the principle of local action.**

National Glacial Lake Outburst Floods Risk Mitigation Programme

Why in the news?

- **NDMA to monitor 189 high-risk glacial lakes** to prevent disasters.

About National Glacial Lake Outburst Floods Risk Mitigation Programme:

- **Aim:** to address the risks posed by glacial lake outburst floods.
- **Implementation:** The program is being implemented by the **National Disaster Management Authority (NDMA)** in **four states:** Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.
- **High-Risk Lakes:** The NDMA has identified **189 high-risk glacial lakes** for monitoring and mitigation measures.



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	<ul style="list-style-type: none"> <li>● <b>Mitigation Measures:</b> <ul style="list-style-type: none"> <li>○ The program includes detailed technical hazard assessments, <b>installation of automated weather and water level monitoring stations (AWWS)</b>, and <b>early warning systems (EWS)</b> at the lakes and in downstream areas.</li> <li>○ <b>Lake-lowering measures</b> are also being attempted to reduce the risk of GLOF.</li> </ul> </li> </ul>
<p><b>Drug Delivery with Nanotechnology</b></p>	<p><b>Why in the news?</b></p> <ul style="list-style-type: none"> <li>● <b>Drug delivery method</b> can improve fungal infection treatment.</li> </ul> <p><b>About Drug Delivery with Nanotechnology:</b></p> <ul style="list-style-type: none"> <li>● <b>Nikkomycin-loaded Nanoparticles:</b> <ul style="list-style-type: none"> <li>○ Scientists have utilized <b>Nikkomycin</b>, a <b>chitin synthesis inhibitor produced by Streptomyces bacteria</b>, for <b>targeting fungal infections</b>.</li> <li>○ Nikkomycin is loaded onto polymeric nanoparticles to specifically target fungal cell walls, which <b>contain chitin—a component absent in human cells</b>.</li> </ul> </li> <li>● The nanoparticle-based drug delivery system <b>disrupts fungal growth without causing cytotoxic or hemolytic effects</b>, making it a safer treatment option.</li> <li>● <b>Potential Applications:</b> Particularly beneficial for patients with <b>asthma, cystic fibrosis, HIV, cancer</b>, or those on <b>long-term corticosteroid therapy, who are at higher risk of fungal infections</b>.</li> </ul> <p><b>Do you know?</b></p> <ul style="list-style-type: none"> <li>● <b>About Nanotechnology:</b> <ul style="list-style-type: none"> <li>○ Nanotechnology involves <b>manipulating atoms and molecules at the nanoscale (1 to 100 nanometers)</b> to create structures with unique properties.</li> <li>○ Nanoparticles are <b>ultra-small particles with a high surface area-to-volume ratio</b>, leading to <b>unique physical and chemical characteristics</b>.</li> </ul> </li> </ul>



**World's Second-Largest Diamond**

**Why in the news?**

- A **2,492-carat diamond**, the **second-largest ever discovered**, was recently unearthed in **Botswana**.

**About World's Second-Largest Diamond:**

- **Newly Discovered Diamond:**
  - The newly discovered diamond is **second to the 3,106-carat Cullinan Diamond**, found in **South Africa** over a century ago.
  - Botswana's diamond industry constitutes 30% of its GDP and 80% of its exports.
  - **Advanced X-ray transmission technology** was used for recovery, enhancing the chances of retrieving large stones without causing damage.

**Did you know?**

- **Diamonds in India: Major Locations are**
  - **Panna belt:** Madhya Pradesh
  - **Wajrakarur Kimberlite pipe:** Anantapur district, Andhra Pradesh
  - **Krishna River basin gravels:** Andhra Pradesh

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