

WHAT IS THE VIDYANJALI SCHOLARSHIP PROGRAMME?

The Union Minister of Education and Skill Development & Entrepreneurship recently launched the EdCIL Vidyanjali Scholarship Programme.



About Vidyanjali Scholarship Programme:

- This initiative guarantees access to high-quality learning systems by facilitating a seamless transition from secondary to higher education and extending financial support for the meritorious Navodaya Vidyalaya students who lack means.
- It symbolises a whole-of-society approach to empowerment through access to and opportunities for education, particularly for students belonging to economically disadvantaged sections.
- The Vidyanjali programme intends to garner assistance and funding from non-government partners and private sources such as CSR grants, national and international donors, and impact investors.
- The beneficiaries of the Vidyanjali programme in its initial phase will be students of grades XI and XII studying in Navodaya Vidyalayas across the country.
- A fintech platform has been specifically curated under Vidyanjali, and the sponsorship will be disbursed to students through this platform as Direct Benefit Transfer (DBT).
 - This platform will be instrumental in capturing data, receiving, hosting, and viewing student applications, tracking student progress, tracking grant disbursement, monitoring fund utilisation, generating impact reports towards SDG realisation, individual mentions of notable student achievement, and publicly acknowledging the support of the funders, among other platform utilities.

What is EdCIL?

- **Educational Consultants India Limited (EdCIL)** is the only **Public Sector Undertaking** under the **Ministry of Education**, Government of India.
- It was incorporated **under the Companies Act**, 1956, on June 17, 1981.
- It is categorised as a '**Mini Ratna Organisation**' by the Government of India.
- It offers **consultancy and technical services** in different areas of **Education** and **Human Resource Development** **not only within the country but also on a global basis**.
- **Clients of EdCIL** include most **State and Central Govt. Departments** including **MHRD**, **PSUs**, and autonomous bodies including **IITs**, **IIMs**, **IITs**, **Kendriya Vidyalaya**, and **Navodaya Vidyalaya**.

PRADHAN MANTRI BHARTIYA JAN AUSHADHI KENDRAS

Primary Agricultural Credit Societies (PACS) have been allowed by the **Government** to operate **Pradhan Mantri Bhartiya Jan Aushadhi Kendras (PMBJK)** under the **Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana**.



About Pradhan Mantri Bhartiya Jan Aushadhi Kendras:

- These are set up under **Pradhan Mantri Bhartiya Janaushadhi Pariyojana**, which was launched by the **Department of Pharmaceuticals**, **Ministry of Chemicals and Fertilisers** in **November 2008**.
- **Objective:** To provide **quality medicines** at **affordable prices** for all, particularly the **poor**, so as to **reduce out-of-pocket expenses** in **healthcare**.
- These **Kendra's** provide **generic drugs**, which are available at **lesser prices** but are **equivalent** in **quality and efficacy** to **expensive branded drugs**.
- All **therapeutic medicines** are made available from **Jan Aushadhi Stores**.
- **Jan Aushadhi stores** also **sell allied medical products** commonly sold in **chemist shops** so as to **improve the viability** of running the **Jan Aushadhi store**.
- **Pharmaceutical & Medical Devices Bureau of India (PMBI)** has been established under the **Department of Pharmaceuticals**, **Govt. of India**, with the support of all the

CPSUs for coordinating **procurement, supply, and marketing** of generic drugs through the PMBKs.

Who is eligible to open a Jan Aushadhi Kendra?

- State Governments or any organisation / reputed NGOs / Trusts / **Private hospitals**/ charitable institutions / Doctors / Unemployed pharmacists/ individual entrepreneurs are eligible to apply for the new Jan Aushadhi Kendra.
 - The applicants shall have to employ one B Pharma / D Pharma degree holder as a Pharmacist in their proposed store.
 - Primary Agricultural Credit Societies.
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SAMARTH CENTRES

Recently, the Minister of State for Heavy Industries informed the Lok Sabha about SAMARTH Centres.



About SAMARTH Centres:

- The **Smart Advanced Manufacturing and Rapid Transformation Hub** (SAMARTH) centres are set up under the Scheme for “Enhancement of Competitiveness in the Indian Capital Goods Sector.”
- These centres have been **providing assistance to the MSMEs** to train the workforce and make them aware of Industry 4.0 technologies in the following ways:
 - Organizing Seminars/ Workshops and knowledge-sharing events on Industry 4.0;
 - Training industries to create awareness about **Industry 4.0**;
 - Providing **consultancy** (in areas such as IOT Hardware, Software development, and data analytics) and **incubation support** to start-ups including MSMEs.

Key facts about the Enhancement of Competitiveness in the Indian Capital Goods Sector scheme:

- It has been launched by the **Ministry of Heavy Industries** to address technological obsolescence and limited access to quality industrial infrastructure and common facilities.
- In order to **address the skill gaps and infrastructure development** and technology needs for the Capital Goods Sector, **Phase I** of the Capital Goods scheme was rolled out in November **2014**.
- Phase I of the scheme fostered partnerships between Academia and Industry for engendering technology development with Government support.
- The objective of **Phase II** (on January 25, 2022) is to expand and enlarge the impact created by the Phase I pilot scheme, thereby providing greater impetus through the creation of a strong and globally competitive capital goods sector that contributes at least 25% to the manufacturing sector.
- **Components of the Scheme**
 - **Identification of Technologies** through Technology Innovation Portals
 - Setting up of four **New Advanced Centres** of Excellence and augmentation of Existing Centres of Excellence
 - **Promotion of skilling** in the Capital Goods Sector—the creation of Qualification packages for skill levels 6 and above
 - Setting up of four **Common Engineering Facility Centres (CEFCs)** and augmentation of existing CEFCs
 - Augmentation of Existing Testing and Certification Centres
 - Setting up of ten Industry Accelerators for Technology Development

INDIA'S FIRST HYPERVELOCITY EXPANSION TUNNEL TEST FACILITY



The Indian Institute of Technology Kanpur (IIT-K) has successfully established and tested India's first Hypervelocity Expansion Tunnel Test Facility recently.

About India's first Hypervelocity Expansion Tunnel Test Facility:

- The S2, nicknamed 'Jigarthanda', is a 24-metre-long facility located at IIT Kanpur's Hypersonic Experimental Aerodynamics Laboratory (HEAL) within the Department of Aerospace Engineering.
- It is India's first Hypervelocity Expansion Tunnel Test Facility.
- It was **indigenously designed and developed** over three years with **funding and support from the Aeronautical Research and Development Board (ARDB)**, the Department of Science and Technology (DST), and IIT Kanpur.
- It is **capable of generating flight speeds between 3-10 km/s, simulating the hypersonic conditions** encountered during the atmospheric entry of vehicles, asteroid entry, scramjet flights, and ballistic missiles.
- It will be a **critical asset for the Indian Space Research Organisation (ISRO)** and the Defence Research and Development Organisation (DRDO).
- It will serve as a **testing ground for ongoing missions of ISRO and DRDO like Gaganyaan, Reusable Launch Vehicles (RLV), and hypersonic cruise missiles**, enabling the development of more advanced and reliable aerospace technologies.

VACCINE SAFETY NET

The Healthy Indian Project (THIP), a health information platform in India, is included as a member of the World Health Organization's Vaccine Safety Net (VSN).



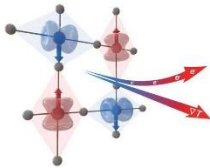
About Vaccine Safety Net:

- It is a **global network of websites**, established by the **World Health Organization** that provides reliable information on **vaccine safety**.
- It is a network of a diverse group of **digital information resources** (websites and social media), VSN members, located in countries around the world and providing scientifically based information on vaccine safety in various languages.
- A key player in the Project is the **Global Advisory Committee on Vaccine Safety (GACVS)**, established by WHO in 1999, to respond promptly, efficiently, and with scientific rigour to vaccine safety issues of potential global importance.

- At the outset of the Project, GACVS developed three categories of criteria for good information practices - **regarding credibility, content, accessibility and design** to which digital resources providing information on vaccine safety should adhere.
 - WHO evaluates those electronic resources for their adherence to these criteria.
 - It is continuously expanding and to date, 110 websites from 45 countries provide vaccine safety **information in 43 languages**.
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WHAT ARE ALTERMAGNETS?

In a new study, scientists have investigated the newly discovered class of altermagnetic materials for their thermal properties, offering insights into the distinctive nature of altermagnets for spin-caloritronic applications.



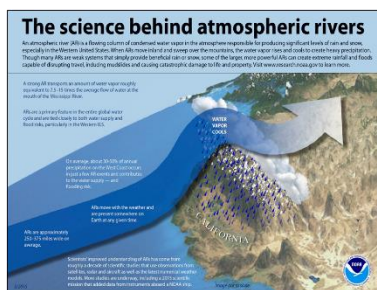
About Altermagnets:

- Altermagnets exhibit a unique blend of magnetic characteristics, setting them apart from conventional magnetic materials like ferromagnets and antiferromagnets.
- **Properties:**
 - These materials exhibit properties observed in both ferromagnets and antiferromagnets, making their study enticing.
 - Altermagnets defy conventional norms by embodying a dual nature—resembling **antiferromagnets with zero net magnetization** and **ferromagnets with non-relativistic spin splitting**.
 - This unique behaviour emerges from the intricate interplay of atoms within **the crystal structure**.
 - Additionally, altermagnets exhibit a unique **spin polarisation**. The term "spin polarisation" means that a preponderance of electron spins tends to align in a particular direction.

- The spin polarisation is noteworthy in altermagnets because it occurs in the physical arrangement of atoms (real space) and in the momentum space, where the distribution of electron spins in the material is considered.
- The researchers believe that altermagnets could have a pivotal **role in spin caloritronics**, a field of research that explores the interplay between spin and heat flow, which are not achievable with ferromagnets or antiferromagnets.
- This field has potential applications in developing **new technologies for information processing and storage**.
- The researchers focused on studying the emergence of **crystal Nernst and crystal thermal Hall effects** in rubidium dioxide (RuO₂), chosen as a showcase representative of altermagnetism.
- The **crystal Nernst effect (CNE)** observed in altermagnets is a result of their distinctive magnetic nature.
 - In simple terms, as the material experiences a **temperature difference** across its dimensions, it leads to the emergence of a voltage perpendicular to both the **temperature gradient and the magnetic field**.
 - This phenomenon reveals that the material's magnetic properties **influence its response to temperature changes**, providing insights into the intricate connection between **thermal and magnetic behaviours in altermagnets**.

ATMOSPHERIC RIVER BRINGS HEAVY RAIN TO CALIFORNIA

Why in the News?



- Southern California has been inundated with massive rainfall, with the risk of landslides rising on the soaked ground.

What is an Atmospheric River?

- An atmospheric river is a plume of moisture, or water vapor, that moves from the tropics and is dumped over a region as

heavy rain or snow.

- Atmospheric rivers are narrow bands that tend to occur on the eastern side of strong mid-latitude storms.
- On average, the Earth has four to five active atmospheric rivers at any time. Each moves the equivalent of the liquid water that flows through the mouth of the Amazon River.
- When this atmospheric river reaches land, it releases moisture, producing heavy snow and rain.
- The rain that hit California is part of a weather system called the Pineapple Express, which is an atmospheric river that originates in the subtropical waters around Hawaii.

How Long do Atmospheric Rivers Last?

- Studies have found that **atmospheric rivers generally last 20 hours over an area** along the coastline.
- A single atmospheric river can move around in the ocean for up to five days.
- And that an atmospheric river can cause a single location along the coast to be inundated with heavy rainfall from 12 to 72 hours.

How Does El Niño Affect Atmospheric Rivers?

- El Niño is a naturally occurring climate pattern characterized by abnormally warm ocean waters in the tropical Pacific that drives heavy rains and storms.
- An average of seven to 10 strong atmospheric rivers make landfall in California each year.
- El Niño years tend to bring a higher level of moisture and make atmospheric rivers along the West Coast of the U.S. more frequent.
- However, it is not clear whether El Niño is the sole driver behind more precipitation and higher storm intensity.

How Does Climate Change Affect These Storms?

- There are three main ways that climate change could affect atmospheric rivers in the future:



CROSS & CLIMB ROHTAK



- **More rain:** Experts say a warmer atmosphere in the future will hold more moisture, which could lead to more precipitation and an intensification of storms.
- **More frequent and more intense:** Atmospheric rivers already account for nearly 90 percent of California’s flood damage. Research suggests that as temperatures warm, atmospheric rivers could occur in closer succession and drop more rainfall in a season.
- **Less snow:** As temperatures warm, some research suggests that instead of snow, the rivers could bring rain to certain regions.

How will the Atmospheric River Help the Region?

- Before two consecutive wet years including the present one, California had experienced drought conditions for decades.
- California’s water year is measured from October to September. The rainfall, thus, is welcome.

