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### Vigyan Dhara

Recently The Union Cabinet has approved continuation of the 3 umbrella schemes, merged into a unified central sector scheme namely 'Vigyan Dhara' of Department of Science and Technology.

- **Objective** - To promote S&T capacity building as well as research, innovation and technology development towards strengthening the Science, Technology and Innovation ecosystem in the country.
- Strengthen the S&T infrastructure of the country by fostering well-equipped R&D labs in the Academic Institutions.
- **Nodal Ministry** - Union Ministry of Science and Technology.
- **Three Components of Vigyan Dhara**
  - Science and Technology (S&T) Institutional and Human Capacity Building
  - Research and Development
  - Innovation, Technology Development and Deployment
- **Merge** - These three schemes have been merged into the unified scheme 'Vigyan Dhara'.
- **Objective of Merge** - To enhance efficiency in fund utilization and establish synchronization among the sub-schemes/programs.
- **Features** - Strengthen the **S&T infrastructure** of the country by fostering well-equipped R&D labs in the Academic Institutions.
- Promote research in areas such as basic research with access to the international mega facilities
- Encourage translational research in sustainable energy, water, etc.
- Building critical **human resource pool** to strengthen the science and technology landscape.
- Expand the R&D base of the country towards improving the Full-Time Equivalent (FTE) **researcher** count.
- Focused interventions to enhance the participation of **women** in the field of S&T with the ultimate goal of bringing gender parity in Science, Technology and Innovation (STI).
- Reinforce the efforts of the government towards promoting **innovations** at all levels, starting from school level to higher education, Industries and Startups through targeted interventions.
- Significant support to increase **collaboration** between academia, Government, and also with industries.
- Support collaborative research through international bilateral and multilateral cooperation.
- **Implementation** - All the programs proposed under the 'Vigyan Dhara' scheme would

be aligned with the 5-year goals of DST towards realising the vision of Viksit Bharat 2047.

- The research and development component of the scheme will be aligned in line with the Anusandhan National Research Foundation (ANRF).
- Follow the globally prevailing yardsticks while in alignment with the national priorities.

## Reference

[PIB | Vigyan Dhara](#)

## Unified Pension Scheme

*The Union Cabinet has recently approved the Unified Pension Scheme (UPS) for central government employees.*

- **Aim** - To ensure dignity and financial security, well-being and a secure future for government employees.

*In 2023, government had set up a committee led by former Finance Secretary T V Somanathan to explore ways to improve pension benefits under [National Pension Scheme](#) without reverting to the non-contributory Old Pension System (OPS).*

- **Features of the scheme**
- **Assured pension** - 50% of the average basic pay drawn over the last 12 months prior to superannuation for a minimum qualifying service of 25 years.
  - This pay is to be proportionate for lesser service period upto a minimum of 10 years of service.
- **Assured family pension** - 60% of pension of the employee immediately before her/his demise.
- **Assured minimum pension** - Rs.10,000 per month on superannuation after minimum 10 years of service.
- **Inflation indexation** - On assured pension, on assured family pension and assured minimum pension.
  - Dearness Relief based on All India Consumer Price Index for Industrial Workers (AICPI-IW) as in case of service employees.
- **Lump sum payment** - At superannuation in addition to gratuity
  - 1/10<sup>th</sup> of monthly emoluments (pay + DA) as on the date of superannuation for every completed six months of service.
  - This payment will not reduce the quantum of assured pension.
- **Eligibility** - Existing and future employees will have the option of joining the [New Pension Scheme](#) (NPS) or UPS.
  - The choice, once exercised, will be final.
  - Provisions of the UPS would also apply to past retirees of the New Pension Scheme.

- **Government Contribution** - Government's contribution has also been increased from 14 to 18.5%.
- **Implementation** - The scheme will come into effect from April 1, 2025.

## References

1. [PIB | UPS](#)
2. [Business Standard | UPS](#)

## U.S. - India Civil Nuclear Deal

*Union Minister recently chaired bilateral meeting on US-India Civil Nuclear Commerce*

- It is a **legally binding** agreement between the United States and India that establishes a framework for peaceful nuclear cooperation in 2005.
- **123 Agreements** - It is also known as 123 Agreement. 123 Agreements are a prerequisite for nuclear deals between the US and other countries.
- The agreements are based on Section 123 of the United States Atomic Energy Act of 1954, which is titled "Cooperation with Other Nations".
- **Criteria**
  - To legally obligate our partners to observe specific standards in a multitude of areas including peaceful uses.
  - International Atomic Energy Agency (IAEA) safeguards (technical measures through which the IAEA seeks to verify that nuclear material is not diverted from peaceful uses)
  - Physical security of nuclear materials and prohibitions on enriching, reprocessing, and transfer of specific material and equipment without our consent.

*As of July 2, 2024, the United States has 24 such agreements in force that govern peaceful nuclear cooperation with 48 countries.*

- **Civilian nuclear facilities** - India agrees to allow inspectors from the International Atomic Energy Association (IAEA), the United Nations' nuclear watchdog group, access to its civilian nuclear program.
- The IAEA Board of Governors approved India's safeguards agreement, paving the way for India's consideration at the Nuclear Suppliers Group in 2008.
- **Nuclear weapons** - The deal recognizes **India as a nuclear weapons state**, which was a landmark occasion as the U.S. had imposed sanctions on India since 1974 after its first nuclear weapons testing.
- **Energy** - The deal is about partnering with India on its energy, and it could set the stage for India to emerge as a global power.
- **Outer space cooperation** - The deal also includes a plan for cooperation in outer space.
- As part of the overall initiative,

- India will expand international safeguards,
- Adhere to international nuclear and missile export guidelines,
- Continue its voluntary moratorium on nuclear testing, and
- Ensure that all civil nuclear trade will be used only for peaceful purposes.

## Reference

[PIB | US-India Civil Nuclear Commerce](#)

## Mission Rhumi

*Rhumi-1 recently takes off in Thiruvananthapuram in Chennai's East Coast Road.*

- Rhumi-1 is India's ***first reusable hybrid rocket*** on a mobile Launchpad with the goal of advancing research on global warming and climate change.
- It is an initiative of ***Space Zone India, Tamil Nadu-based start-up*** in partnership with Martin Group.
- **Altitudes** - Ranging from 1 km to 500 km.
- **Weight** - 80 kilograms and 3.5 metres tall.
- It is powered by a hybrid motor using a generic fuel and features an electrically triggered parachute deployer.
- **Fuel** - Rhumi-1 rocket combines the advantages of both liquid oxidiser and solid fuel propellant systems.
- **Trajectories** - RHUMI 1 is equipped with adjustable launch angle that can be set anywhere between 0 and 120 degrees, enabling precise trajectory adjustments.
- **Payloads** - Rhumi-1 carried 3 cube satellites designed to monitor and gather data on atmospheric conditions, such as cosmic radiation intensity, UV radiation, and air quality.
- The rocket also deployed 50 different Pico satellites, each dedicated to studying various atmospheric factors, including accelerometer readings, altitude, and ozone levels.

## References

1. [The Hindu | Mission Rhumi 2024](#)
2. [Hindustan Times | What is 'RHUMI-1'?](#)
3. [Business Standard | RHUMI](#)

## BioE3 Policy

*Cabinet recently approves BioE3 (Biotechnology for Economy, Environment and Employment) Policy.*

- **Aim** - The policy aims for fostering High Performance Biomanufacturing.
- **High performance biomanufacturing** - It is the ability to

- Produce products from medicine to materials,
- Address farming and food challenges, and
- Promote manufacturing of bio-based products through integration of advanced biotechnological processes.
- **Ministry** - Ministry of Science & Technology.
- **Focusing sectors** - The Policy would broadly focus on the following strategic/thematic sectors
  - High value bio-based chemicals,
  - Biopolymers & enzymes
  - Smart proteins & functional foods
  - Precision biotherapeutics
  - Climate resilient agriculture
  - Carbon capture & its utilization
  - Marine and space research.
- **Features** - The policy supports innovation-driven support to R&D and entrepreneurship across thematic sectors.
- This will accelerate technology development and commercialization by establishing Biomanufacturing & Bio-AI hubs and Biofoundry.
- Along with prioritizing regenerative bioeconomy models of green growth, this policy will facilitate expansion of India's skilled workforce and provide a surge in job creation.
- Overall, this Policy will further strengthen 'Net Zero' carbon economy & 'Lifestyle for Environment' and will steer India on the path of accelerated 'Green Growth' by promoting 'Circular Bioeconomy'.
- The BioE3 Policy will foster and advance future that is more sustainable, innovative, and responsive to global challenges and lays down the Bio-vision for Viksit Bharat.

## References

1. [PIB | BioE3 Policy](#)
2. [Economic Times | Cabinet approves BioE3 Policy](#)