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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
  - $1/10^{th}$ 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 Thiruvidanthai 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.
- **Trajections -** 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

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