

NATIONAL PENSION SYSTEM (NPS)

The Union Home Minister recently said the government would deliberate on restoring the Old Pension Scheme (OPS) once the committee constituted for the purpose submitted its report.



About the National Pension System (NPS):

- It is a **retirement benefit scheme** introduced by the Government of India to facilitate regular income post-retirement for all subscribers.
- NPS was launched on 1st January, 2004.
- **Initially, NPS was introduced for the new government recruits** (except the armed forces). **With effect from 1st May, 2009, NPS has been provided for all citizens of the country**, including the unorganised sector workers on voluntary basis.
- **Voluntary:** It is a **voluntary scheme for all citizens of India**. People can invest any amount in their NPS account at any time.
- **Permanent Retirement Account Number (PRAN):** It is based on a **unique PRAN**, which is allotted to every subscriber.
- **Portability:** NPS account or PRAN will remain the same irrespective of changes in employment, city, or state. It can be used from any location in India.
- **PFRDA (Pension Fund Regulatory and Development Authority) is the governing body for NPS.**
- There is **no defined benefit** that would be available at the **time of exit** from the system, and the **accumulated wealth depends on the contributions made and the income generated from the investment** of such wealth.
- Under NPS, **individual savings are pooled into a pension fund, which is invested by PFRDA-regulated professional fund managers** into diversified portfolios comprising Government Bonds, Bills, Corporate Debentures, and Shares.

- Contributions made by individual subscribers are accumulated until retirement, and corpus growth continues via market-linked returns. Subscribers also have the option to exit this plan before retirement or opt for superannuation.
 - PRAN will provide access to two personal accounts:
 - **Tier I Account:** This is a **non-withdrawable account** meant for savings for retirement.
 - **Tier II Account:** This is simply a **voluntary savings facility**. The subscriber is **free to withdraw savings from this account** whenever he or she wishes. **No tax benefit is available on this account.**
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PROPOSED REDESIGNATION OF THE IAF AS THE INDIAN AIR AND SPACE FORCE

Why in news?

- Interacting with the media, Air Chief Marshal RKS Bhadauria said that changing the name of the Indian Air Force (IAF) to the Indian Air and Space Force would be a positive move.
- He called it a **work in progress**, indicating that the idea is still being developed.

Space Security

- Space security deals with the abilities of a country to protect its assets in space - such as the hundreds of satellites used for communication and surveillance.
- The space landscape is changing rapidly. Terrestrial politics is casting its shadow on outer space.
- Hence, relevance of space to national security and conventional military operations is increasing day by day.

Need for space security

- **Competition in outer space**
 - Several recent trends are impacting the security and sustainability of outer space activities. These include:

- the massive growth in the number and diversity of actors operating in outer space, including governments and the private sector;
 - the proliferation of hazardous space debris; and
 - increasing dependence on outer space in the civilian, government and military sectors.
- **Countries developing counter-space capabilities**
 - The first successful Chinese anti-satellite (ASAT) test took place in January 2007.
 - China’s launch of a rocket from a ship is evidence of growing sophistication of the Chinese military space capabilities.
 - In December 2019, US president announced the creation of US Space force.

Steps taken by Indian Government:

- India’s first dedicated military satellite was launched only in 2013.
- Under the **Mission Shakti**, in March 2019, India shot down a live Low-Earth Orbit (LEO) satellite in space thereby showing its deterrence capability in space.
 - This was the first Indian demonstration of anti-satellite (ASAT) capability.
 - With this feat, India became the 4th country in the world to have this capability.The other three countries are U.S, Russia and China.
- The establishment of the new tri-service Defence Space Agency (DSA), based in Bangalore, is an important institutional initiative.
- To promote R&D in this field, government gave its approval for setting up of a new agency called the Defence Space Research Agency (DSRA).
- India conducted war game IndSpaceEx to gain a better understanding of the current and emerging challenges in the space security domain.

WHAT ARE DEEPFAKES?



The Union Information Technology Minister recently said the government will form regulations to control the spread of deepfakes on social media platforms, terming them a “new threat to democracy.”

About Deepfakes:

- Deepfakes are a **compilation of artificial images and audio put together with machine-learning algorithms** to spread misinformation and **replace a real person's appearance, voice, or both** with similar artificial likenesses or voices.
- The term "deepfake" **combines the deep learning concept with something fake**.
- It can **create people who do not exist**, and it can **fake real people saying and doing things they did not say or do**.
- **Background:** The origin of the word "deepfake" can be traced back to 2017, **when a Reddit user with the username "deepfakes", posted explicit videos of celebrities**.
- **Working:**
 - They are **created by machine learning models**, which use **neural networks to manipulate images and videos**.
 - To make a deepfake video of someone, a **creator would first train a neural network** on many hours of **real video footage of the person to give it a realistic "understanding"** of what he or she looks like from many angles and under different lighting.
 - Then **they'd combine the trained network with computer-graphics techniques to superimpose a copy of the person onto a different actor**.
- Deepfake technology is **now being used for nefarious purposes like scams and hoaxes, celebrity pornography, election manipulation**, social engineering, automated disinformation attacks, identity theft, and financial fraud.
- Deep fakes differ from other forms of false information by being **very difficult to identify as false**.

RARE DISEASES & CHALLENGES ASSOCIATED WITH THESE DISEASES

- Indian drug companies have started manufacturing medicines for at least four conditions, bringing down the cost by up to 100-fold.

About Rare Diseases:

- A rare disease is a health condition of low prevalence that affects a small number of people compared with other prevalent diseases in the general population.
- There are **7,000-8,000 classified rare diseases**, but less than 5% have therapies available to treat them.
- A condition is considered to be a rare disease **if its prevalence is less than one case per 1,000 population**.
- Around 6% to 8% of the population is estimated to have a rare disease, meaning **8.4 crore to 10 crore Indians are living with these conditions** for which treatments either do not exist or therapies are extremely expensive.
- While a **majority of rare diseases are believed to be genetic**, many — such as some rare cancers and some autoimmune diseases — are not inherited.

Challenges Associated with Rare Diseases:

- The field of rare diseases is complex and heterogeneous as prevention, treatment and management of these diseases has multiple challenges.
- **Early diagnosis is a major challenge** owing to a variety of factors that include lack of awareness among primary care physicians, lack of adequate screening and diagnostic facilities etc.
- Relatively little is known about the pathophysiology or the natural history of majority of rare diseases, particularly in the Indian context.
- Rare diseases are also **difficult to research upon** as the patients pool is very small and it often results in inadequate clinical experience.
- Despite progress in recent years, there is a need to augment effective and safe treatment for rare diseases.
- The cost of treatment of rare diseases is prohibitively expensive. For example, **treatment for Spinal Muscular Atrophy (SMA) costs approximately Rs. 16 crore**.

- Various High Courts and the Supreme Court have also expressed concern about lack of a national policy for rare diseases.

National Policy for Rare Diseases, 2021:

- In 2021, the Union Ministry of Health and Family Welfare had approved the National Policy for Rare Diseases.
- **Key Features of the Policy:**
 - A provision for **financial support up to Rs. 20 lakhs** under the umbrella scheme of **Rastriya Arogya Nidhi** is provided for treatment, of those rare diseases that require a one-time treatment.
 - **Objective:** To lower the high cost of treatment for rare diseases with increased focus on indigenous research.
 - **Eligibility:** Beneficiaries for financial assistance are not be limited to below poverty line (BPL) families, but extended to about 40% of the population, who are eligible under **Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)**.
 - The policy has **categorised rare diseases into three groups:**
 - Diseases amenable to one-time curative treatment;
 - Diseases requiring long term or lifelong treatment;
 - Diseases for which definitive treatment is available but challenges are to make optimal patient selection for benefit.
 - The policy envisages creation of a **national hospital based registry of rare diseases**.
 - The policy focuses on early screening and prevention through primary and secondary health care infrastructure.
 - Screening is supported by **Nidan Kendras** set up by Department of Biotechnology.
 - Policy also aims to strengthen tertiary health care facilities for prevention and treatment of rare diseases.

- This is ensured by designating eight health facilities as **Centre of Excellence (CoE)**.
 - These CoEs are provided with one-time financial support of up to Rs. 5 crores for upgradation of diagnostics facilities.
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CREDIT GUARANTEE TRUST FOR MICRO AND SMALL ENTERPRISES (CGTMSE) SCHEME

The Credit Guarantee Trust for Micro and Small Enterprises (CGTMSE) Scheme has approved a credit guarantee of Rs. 1 lakh crore in just 7 months of the current financial year 2023-24.



About the Credit Guarantee Trust for Micro and Small Enterprises (CGTMSE) Scheme:

- It was **launched in 2000**.
- **Funding:** The corpus of CGTMSE is being contributed by the **Government of India** and the **Small Industries Development Bank of India (SIDBI)** in the ratio of **4:1**.
- Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) is jointly set up by the **Ministry of Micro, Small, & Medium Enterprises (MSME)**, the Government of India, and the **Small Industries Development Bank of India (SIDBI)** to catalyse the flow of institutional credit to Micro & Small Enterprises (MSEs).
- CGTMSE has been instrumental in providing **guarantee cover to collateral and/or third-party guarantee-free credit facilities** extended by eligible Member Lending Institution [MLIs] to MSEs.

Key points about the Small Industries Development Bank of India

- It was established under an **Act of Parliament in 1990**.
 - The main objective of SIDBI is to offer loans (both direct and indirect) to MSMEs to help address the development and financial gaps in the ecosystem of MSMEs.
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INTERNATIONAL DAY FOR THE ELIMINATION OF VIOLENCE AGAINST WOMEN

The International Day for the Elimination of Violence Against Women is observed worldwide on November 25 each year.



About International Day for the Elimination of Violence Against Women:

- It is observed **annually on November 25.**
- It is a **United Nations (UN)-designated day** marked to **create awareness** of the different types of **violence faced by women**, promoting advocacy, and **creating better opportunities** for women.
- **2023 Theme:** This year's theme, "**UNITE! Invest to prevent violence against women and girls**", emphasises the need to fund prevention strategies proactively to stop gender-based violence.
- **History:**
 - Since **1981**, women's rights activists have marked **25 November** as a day **against gender-based violence**, paying **homage to the Mirabal sisters**—three **Dominican political activists** brutally **murdered in 1960** by order of the country's ruler, **Rafael Trujillo (1930-1961)**.
 - The **UN General Assembly**, on **20 December 1993**, adopted the **Declaration on the Elimination of Violence against Women**, laying the groundwork for global efforts to eradicate such violence.
 - On **7 February 2000**, the **General Assembly**, through a **resolution**, **officially designated 25 November** as the International Day for the Elimination of Violence Against Women.
 - This resolution **urged governments**, international organizations and **NGOs** to unite in **organizing activities** annually on this date, **fostering public awareness and collective action** to **address and eliminate violence against women and girls** worldwide.

WHAT IS A RADIO GALAXY?

Astronomers recently reported the discovery of 63 new giant radio galaxies.



- Radio Galaxies, also known as **radio-luminous galaxies** or **radio-loud galaxies**, are a particular **type of active galaxy that emits more light at radio wavelengths** than at visible wavelengths.
- These happen through the interaction between charged particles and strong magnetic fields related to supermassive black holes at the galaxies' centre.
- Radio galaxies are driven by non-thermal emissions.
- They are much bigger than most of the other galaxies in the universe.
- The first radio galaxy to be discovered, and still the brightest, is called Cygnus A.
- There are two broad classes of radio galaxies:
 - **Core-halo radio galaxies:**
 - They exhibit radio emission from a region concentrated around the nucleus of the galaxy.
 - The region of radio emission is comparable in size to the optically visible galaxy.
 - **Lobed radio galaxies:**
 - They display great lobes of radio emission extending, in some cases, for millions of light years beyond the optical part of the galaxy.
 - Some radio galaxies have a single lobe, but more often, the lobes are double, arrayed on both sides of the optical galaxy.