

DRDO flight tests new autonomous Flying Wing Technology Demonstrator

(GS Paper 3, Science and Tech)

Why in news?

- The Defence Research and Development Organisation (DRDO) successfully carried out the maiden test flight of a new **Unmanned Aerial Vehicle (UAV)**, an **autonomous Flying Wing Technology Demonstrator**, from the Aeronautical Test Range, Chitradurga, Karnataka.



Salient features:

- The Unmanned Aerial Vehicle (UAV) is **powered by a small turbofan engine**.
- The airframe, undercarriage and entire flight control and avionics systems used for the aircraft were developed indigenously, DRDO said.
- The engine is Russian TRDD-50MT originally designed for cruise missiles.

Stakeholder:

- The UAV was designed and developed by Aeronautical Development Establishment (ADE), Bengaluru, a premier research laboratory of DRDO.

What's next?

- DRDO is in the process of developing UAVs of different classes to met the requirements of the armed forces.
- Rustom-2, the indigenous Medium Altitude Long Endurance (MALE) UAV under development, had crossed a milestone by reaching an altitude of 25,000 feet and an endurance of 10 hours in December 2021 and is being designed to reach an altitude of 30,000 feet and 18 hours endurance.
- An Unmanned Combat Aerial Vehicle is also on the drawing board.

Govt revamps Banks Board into Financial Services Institutions Bureau

(GS Paper 3, Indian Economy)

Why in news?

- The Appointments Committee of the Cabinet (ACC) has approved a government resolution for **establishing the Financial Services Institutions Bureau (FSIB)** in place of the Banks Board Bureau (BBB).



Composition:

- The ACC has also approved the appointment of Bhanu Pratap Sharma, former Chairman, BBB, as initial Chairperson of FSIB for a term of two years from the date of notification of government resolution or until further orders.
- Other members of the headhunter are Animesh Chauhan, former Chairman and Managing Director of erstwhile Oriental Bank of Commerce, RBI's ex-executive director Deepak Singhal and Shailendra Bhandari, former MD of erstwhile ING Vysya Bank.

Selection function of FSIB:

- Guidelines for selection of general managers and directors of public sector general insurance companies have been made part of FSIB.
- The selection process of top officials of public sector insurance companies was in limbo in the wake of the Delhi High Court decision to strike down the power of BBB to select directors and chiefs of PSU insurers.

About BBB:

- The **Prime Minister, in 2016, approved the constitution of BBB** as a body of eminent professionals and officials to make recommendations for appointment of whole-time directors as well as non-executive chairpersons of public sector banks (PSBs) and state-owned financial institutions.
- It was also entrusted with the task of engaging with the board of directors of all PSBs to formulate appropriate strategies for their growth and development.

What's next?

- The Appointments Committee of the Cabinet (ACC) has asked the Department of Financial Services to carry out necessary modifications in the Nationalized Banks (Management and Miscellaneous Provisions) Scheme of 1970/1980 with the approval of Finance Minister, and then notify the government resolution for establishing FSIB as a single entity for making recommendations for appointments of whole time directors and non-executive chairman of banks and financial institutions.

New 'open' category in elite swimming (Miscellaneous)

Why in news?

- Recently, FINA introduced the new “open” category in elite swimming.

About FINA:

- FINA is the **international federation recognised by the International Olympic Committee (IOC)** for administering international competitions in water sports.
- It proposes rules and regulations for major aquatic sports such as swimming, diving, water polo among others.



Background:

- FINA recently barred transgender women from competing in elite women’s competition. The move was welcomed by many and slammed by a section too.
- The debate around it started in March when freestyler Lia Thomas, a transgender athlete aced Olympic medley silver medallist Emma Weyant to win the prestigious US Collegiate title.

New open category:

- To protect the rights of the athletes to compete, and at the same time, to maintain competitive fairness at events, especially in the women’s category, FINA introduced the new “open” category.
- It seeks to provide opportunities for transgender athletes to compete in FINA competitions in the category that reflects their gender identity and does not undermine FINA’s goals for the women’s category.

Testosterone in transwomen:

- As more and more transgender women participate in elite athletic competitions, there is an increasing view that **trans-women who have transitioned into a female post the puberty still retain large amounts of testosterone**, giving them competitive edge over women.
- A working science group set up by FINA found that post-pubescent males have circulating testosterone concentrations at least 15 times higher than post-pubescent females.
- A biological female athlete cannot overcome that advantage through training or nutrition.

- However, transgender men can compete in men's competition category as they gain no biological or physical advantage.

Way Forward:

- FINA's move could be seen as mainstreaming trans-women in society. It can serve as a platform for trans visibility also.
- Meanwhile, world soccer's governing body **FIFA and World Athletics** said they will **revisit their transgender eligibility policies**, taking guidance from medical, legal, scientific, performance and human rights experts.

India's largest floating solar power project commissioned

(GS Paper 3, Environment)

Why in news?

- India's largest floating Solar Power Project is now fully operational.
- NTPC declared Commercial Operation of the final part capacity of 20 MW out of **100 MW Ramagundam Floating Solar PV Project at Ramagundam, Telangana.**

Total commercial operation of Floating Solar Capacity in Southern Region:

- With the operationalisation of 100-MW Solar PV Project at Ramagundam, total commercial operation of Floating Solar Capacity in Southern Region rose to 217 MW.
- Earlier, NTPC declared Commercial operation of **92 MW Floating Solar at Kayamkulam (Kerala)** and **25 MW Floating Solar at Simhadri (Andhra Pradesh).**



Salient features:

- The 100-MW Floating Solar project at Ramagundam is endowed with advanced technology as well as environment friendly features.
- Constructed with financial implication of Rs. 423 crores through M/s BHEL as EPC (Engineering, Procurement and Construction) contract, the project spreads over 500 acres of its reservoir.
- Divided into 40 blocks, each having 2.5 MW.
- Each block consists of one floating platform and an array of 11,200 solar modules.
- The floating platform consists of one Inverter, Transformer, and a HT breaker.

High Modulus Polyethylene:

- The solar modules are placed on floaters manufactured with HDPE (High Density Polyethylene) material.
- The entire floating system is being anchored through special HMPE (High Modulus Polyethylene) rope to the dead weights placed in the balancing reservoir bed. The power is being evacuated up to the existing switch yard through 33KV underground cables.
- This project is unique in the sense that all the electrical equipment including inverter, transformer, HT panel and **SCADA (supervisory control and data acquisition)** are also on floating ferro cement platforms.

Environment Friendly:

- The most obvious advantage is **minimum land requirement** mostly for associated evacuation arrangements.
- Further, with the presence of floating solar panels, the **evaporation rate from water bodies is reduced**, thus helping in water conservation. Approximately 32.5 lakh cubic meters per year water evaporation can be avoided.
- The water body underneath the solar modules helps in maintaining their ambient temperature, thereby improving their efficiency and generation.
- Similarly, while coal consumption of 1,65,000 Tons can be avoided per year; Co2 emission of 2,10,000 tons per year can be avoided.