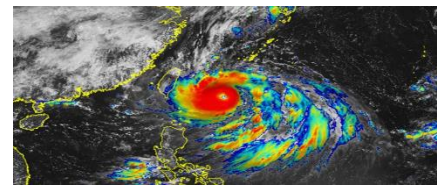


02 September, 2022

Super Typhoon Hinnamnor

❖ Context

- According to a forecast from the Japan Meteorological Agency, the typhoon is raging towards the **East China Sea**, threatening **Japan's southern islands**.



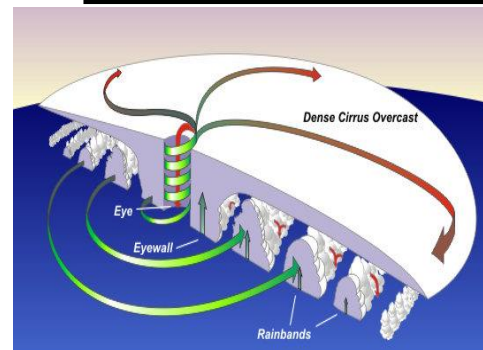
❖ Key Highlights

- A **category-5** hurricane, is accumulating a sustained **wind speed of about 241 kilometres per hour (kmph)**. This is the **strongest tropical cyclone** so far this year.

❖ About Tropical Cyclones

- Tropical cyclones are **warm-core low pressure systems**.
- They **always form over oceans** where sea surface temperature and air temperatures are **greater than 26°C**.
- The energy of the tropical cyclone is derived from the massive liberation of the **latent heat of condensation** by convective clouds that form over warm oceans. They develop at latitudes usually greater than 5° from the equator. They reach their **greatest intensity** while located over warm tropical water.
- Tropical cyclones can only form over oceans of the world except in the South Atlantic Ocean and the south eastern Pacific due to the cooler sea surface temperature and higher vertical wind shears.
- Air spirals in toward the centre in a counter-clockwise pattern in the northern hemisphere (clockwise in the southern hemisphere), and out the top in the opposite direction.

❖ Structure of Tropical Cyclone



- In a fully developed cyclonic storm, there are four major components of **horizontal structure** viz. **Eye, Wall cloud region, Rain/Spiral bands and Outer storm area**.

- The **vertical structure** of a cyclonic storm can be divided into three layers viz. **Inflow layer (upto height of 3 km), middle layer (3-7.6 km) and outflow layer (>7.6 km)**.

❖ Classification of Tropical Cyclone Adopted by IMD for North Indian Ocean

Type of disturbance	Associated maximum sustained wind
1. Low Pressure Area	Not exceeding 17 knots (<31 kmph)
2. Depression	17 to 27 knots (31-49 kmph)
3. Deep Depression	28 to 33 Knots (50-61 kmph)
4. Cyclonic Storm	34 to 47 Knots (62-88 kmph)
5. Severe Cyclonic Storm	48 to 63 Knots (89-117 kmph)
6. Very Severe Cyclonic Storm	64 to 90 Knots (118-167 kmph)
7. Extremely Severe Cyclonic Storm	91 to 119 Knots (168-221 kmph)
8. Super Cyclonic Storm	120 Knots and above (≥222 kmph)

Ramon Magsaysay Award 2022

❖ Context

- The winners of Ramon Magsaysay Awards 2022 were announced recently.



❖ Key Highlights

- The annual awards are named after a **Philippine president** who died in a 1957 plane crash, and honour greatness of spirit in selfless service to the peoples of Asia.
- It was established in April 1957 by the trustees of the Rockefeller Brothers Fund based in New York City with the concurrence of the Philippine government. The awards were first given in **1958**. **Vinoba Bhave** was the first Indian to receive the award in 1958.

❖ Brief About This Year Winners

- **Sotheara Chhim, Psychiatrist (Cambodia)**: Leading the treatment of thousands of traumatised survivors of the Khmer Rouge's brutal rule and other patients in his country.
- **Tadashi Hattori, Ophthalmologist (Japan)**: Training local doctors who have treated thousands of Vietnamese.
- **Bernadette Madrid, Paediatrician (Philippines)**: Providing treatment, raising awareness and engaging policy-makers and civic groups to address child abuse.
- **Gary Benchehib, Activist & Filmmaker (Indonesia)**: Activism against Plastic pollution.

MOXIE

❖ Context

- An instrument of the size of a lunchbox has been successfully generating breathable oxygen on Mars.



❖ Key Highlights

- The **Mars Oxygen In-Situ Resource Utilisation Experiment (MOXIE)** developed by the **Massachusetts Institute of Technology (MIT)** works like a tree, splitting carbon dioxide absorbed from the atmosphere to produce pure oxygen.
- It was sent onboard **NASA's Perseverance rover** to Mars which landed in April 2021.

- The instrument produced **6 grams of oxygen per hour**, similar to a moderate-sized tree.
- The air first filtered and pressurised is sent through an instrument (**SOXE: Solid Oxide Electrolyzer**) that electrochemically splits the carbon dioxide-rich air into oxygen ions and carbon monoxide.
- The oxygen ions are isolated and recombined to form breathable, molecular oxygen (O₂).

Face to Face Centres

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Anti Radiation Pill

❖ Context

- With fears of a nuclear disaster at Ukraine's Zaporizhzhia power plant growing, the European Union has decided to pre-emptively supply 5.5 million anti-radiation pills to be distributed among residents in the vicinity.

❖ What are Anti-radiation Pills?



- Potassium iodide (KI) tablets, or anti-radiation pills, are known to provide some protection in cases of radiation exposure.

- They contain non-radioactive iodine and can help block absorption, and subsequent concentration, of radioactive iodine in the thyroid gland.

❖ How do they Protect People in Case of a Radiation Emergency?

- After a radiation leak, radioactive iodine floats through the air and then contaminates food, water and soil.
- Internal exposure, or irradiation, occurs when radioactive iodine enters the body and accumulates in the thyroid gland.
- The thyroid gland, which uses iodine to produce hormones to regulate the body's metabolism, has no way of telling radioactive from non-radioactive iodine.

- Potassium iodide (KI) tablets rely on this to achieve 'thyroid blocking'. KI pills taken a few hours before or soon after radiation exposure ensure that non-radioactive iodine in the medicine is absorbed quickly to make the thyroid "full".

❖ Limitations

- KI pills are preventive only and cannot reverse any damage done by radiation to the thyroid gland.
- Once thyroid gland absorbs radioactive iodine, those exposed are at a high risk of developing thyroid cancer.
- Anti-radiation pills do not provide 100% protection. The effectiveness of KI also depends on how much radioactive iodine gets into the body and how quickly it is absorbed in the body. The pills are not meant for everybody.
- They are recommended for people under 40 years of age.
- While it can protect the thyroid against radioactive iodine, it cannot protect other organs against radiation contamination.

Rainbow Cloud

❖ Context

- Recently pictures of an unusually-shaped rainbow cloud that appeared over China were widely shared on social media.
- The cloud resembles a pileus cloud, and the phenomenon of bright colours appearing on a cloud is called cloud iridescence.



❖ What is a Pileus Cloud?

- A pileus cloud is usually formed over a cumulus or cumulonimbus cloud.
- It is formed when the base cloud pushes a moist current of air upwards and the water vapour from the current condenses to somewhat resemble wave-like crests, or umbrellas.
- A pileus cloud is transient in nature and lasts barely for a few minutes, making it difficult, and at the same time, exciting, to spot.

❖ What is Cloud Iridescence?

- Cloud iridescence or Irisation is an optical phenomenon that mostly occurs in wave-like clouds, including pileus and Altocumulus lenticularis.
- Iridescence in clouds means the appearance of colours on clouds, which can either be in the form of parallel bands like in a rainbow, or mingled in patches.
- **Photometeor:** Iridescence of clouds is a photometeor an optical phenomenon produced by the reflection, refraction, diffraction or interference of sunlight.

Forensic Evidence Mandatory

❖ Context

- Delhi Police has become the first police force in the country to make collection of forensic evidence mandatory in crimes punishable by more than six years.



❖ Key Highlights

- In order to take conviction rate higher & integrate the criminal justice system with forensic science investigation, it has been decided to use forensic tools mandatorily in all cases where punishment provided is more than **6 years**.
- The recently released NCRB report showed a **40% increase** in crimes against women in Delhi, the highest among all metropolitan cities in the country.

What is Forensic Science?

- 'Forensic' – Latin *forensis* – "of a forum, place of assembly"
- Forensic science is the application of science to matters of criminal and civil law.
- An applied science; multidisciplinary and multidimensional in nature.
- The nature of science – no absolute authoritative solutions; all it offers is objective information on what occurred at a crime scene.

- Apart from the Delhi Police's own mobile crime vans in the districts, a forensic mobile van shall be allotted to each district to provide scientific and forensic assistance on the spot to the IOs, whenever any such need arises.
- These vehicles shall be fully equipped with scientific tools and a sufficient number of forensic assistants shall be detailed in each van. The forensic mobile vans shall not be under the administrative control of the city police, but shall be **independent entities** responsible to the court of law.

Face to Face Centres



02 September, 2022

Swami Rajarshi Muni

❖ Context

- Recently The Prime Minister, has expressed deep grief on the demise of Kulguru Swami Rajarshi Muni of Lakulish tradition.



❖ About Lakulisha

- Lakulisha (meaning the lord with a staff or mace or club or stick) was a **prominent Shaivite revivalist, reformist and preceptor** of the **doctrine of the Pashupatas**, one of the oldest sects of Shaivism.
- According to some scholars, **Lakulisha is the founder of the Pashupata sect.**
- According to the same tradition, **Lakulisha had four disciples**, viz., Kaurushya, Garga, Mitra and Kushika.

- According to another tradition mentioned in the **Avanti Khanda of the Skanda Purana**, Lakulisha and his four disciples while passing Mahakalavana, installed a linga at that place, which was then known as Kayavarohaneshvara.
- Lakulisha was the fruition of these divine predictions.
- According to Vayu Purana, **Lakulisha was a contemporary of Vyasa and Krishna**, and was the 28th incarnation of Rudra (Shiva).
- Lakulisha Pashupata has been identified as 'Dualistic-combined with-Non-dualistic Monism' (bheda-abheda) Shaivism, and there was strong emphasis on Yoga system.
- The principal text of the Pashupata sect, the **Pāśupata Sūtra** is attributed to Lakulisha.

Tejas Mark-2 Project

❖ Context

- Cabinet Committee on Security (CCS) has approved Tejas Mark-2 Project.



❖ Key Highlights

- The CCS has sanctioned 6,500 crore rupees for designing and developing of Tejas Mark-2 fighter jet with prototypes, flight testing, and certification.
- The advanced version of Tejas LCA will feature a series of additions to its flight and fight capabilities.
- Tejas 2.0 will be equipped with more powerful GE-F414 engines in the 98 Kilonewton thrust class, which will allow it to extend its flight range and carry additional payload and weapons as compared to the existing version. The payload capacity of the Tejas Mark-2 jet will be **four tonnes** as compared to three tonnes of the existing version.

- In addition to this, the new jet will also be equipped with an indigenously developed **Active Electronically Scanned Array (AESA)** radar, which will be a major upgrade from the existing ELTA's EL/M-2032 multi-mode radar.



❖ Significance

- This decision will give a tremendous boost to the indigenous design and development of next-gen fighter aircraft.
- It would further Atmanirbhar Bharat's initiative in the domain of aircraft manufacturing.

e-Awas Web-Portal

❖ Context

- Home Minister recently launched the Central Armed Police Forces' **eAwas web-portal** in New Delhi.



❖ Key Highlights

- In order to operationalize the revised policy of allotment & to also bring transparency in the allotment process, a common web portal by the name '**CAPF eAwas**' for online allotment of Departmental Pool Residential Accommodation & Separated Family Accommodation (SFA) held by CAPFs & Assam Rifles, has been developed.
- The web portal will enable online registration and allotment of residential quarters/SFAs to eligible personnel of all CAPFs and Assam Rifles. The portal has the provision for intimation to the applicant through SMS and e-mail at various stages of the allotment process.
- The portal would also facilitate planning for the construction of new quarters based on demand-gap analysis.

- **Significance:** The initiative of the government is a step towards the welfare of Force personnel by enabling inter-Force allotment of residential accommodation which will go a long way in meeting the housing needs of Force personnel. This provision of inter-Force allotment will result in optimum utilization of available houses.

❖ About CAPFs

- It is a uniform nomenclature for the six Forces of the Union of India under the Ministry of Home Affairs. These Forces are:-
 - the Assam Rifles (AR),
 - the Border Security Force (BSF),
 - the Central Industrial Security Force (CISF),
 - the Central Reserve Police Force (CRPF),
 - the Indo-Tibetan Border Police (ITBP) and
 - the Sashastra Seema Bal (SSB).

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News in Between the Lines

Bulk Drug Parks



❖ Context

- The **Department of Pharmaceuticals** has conveyed 'in-principle' approval to the proposals of the three States Viz, **Himachal Pradesh, Gujarat and Andhra Pradesh** under the Scheme for “**Promotion of Bulk Drug Parks**”.

❖ Key Highlights

- The Scheme, with a financial outlay of **Rs. 3,000 crores** notified in **2020**, provides for **financial assistance to the tune of 70%** of the project cost. For hilly areas, the same would be **90%**.
- The Bulk Drug Parks to be developed under the scheme will provide common infrastructure facilities at one place thereby reducing the manufacturing cost significantly. **The Indian Pharmaceutical industry is the 3rd largest in the world by volume.**

Codeshare Pact



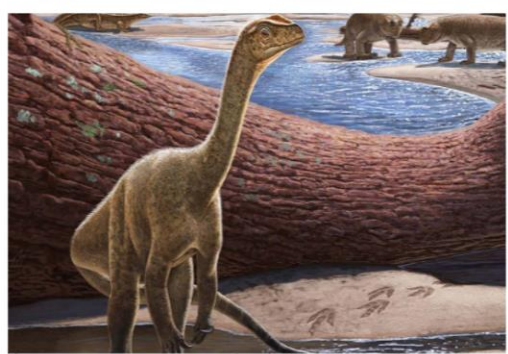
❖ Context

- India's largest airline has entered into a codeshare agreement with a UK carrier.

❖ Key Highlights

- A codeshare agreement, also known simply as codeshare, is a **business arrangement, common in the aviation industry.**
- Under a codeshare agreement, airlines agree to sell seats in each other's flights in order to provide their respective customers a wider network.
- This means that airlines publish and market the same flight under their own airline designator and flight number (the "airline flight code") as part of their published timetable or schedule.
- The term "**code**" refers to the **identifier used in a flight schedule**, generally the two-character IATA airline designator code and flight number.

Mbiresaurus Raathi



❖ Context

- **Africa's oldest dinosaur discovered in Northern Zimbabwe.**

❖ Key Highlights

- A long-necked dinosaur, is thought to have been around 6 feet long and weighed between 10 and 30 kilograms.
- The dinosaur may have been an omnivore or a herbivore based on its small, serrated teeth, which were triangular in shape.
- The oldest known dinosaurs, dating from the Carnian Stage of the **Late Triassic period around 230 million years ago**, are extremely rare and have only been discovered in a small number of locations worldwide, namely **northern Argentina, southern Brazil, and India.**

UN Report On Human Rights Violation In China's Xinjiang Province



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❖ Context

- The UN Human Rights Office recently issued an assessment of human rights concerns in China's Xinjiang Uyghur Autonomous Region.

❖ Key Highlights



- The assessment was initiated following serious allegations of human rights violations against **Uyghurs** and other predominantly Muslim communities brought to the attention of the UN Human Rights Office and UN human rights mechanisms since late 2017.
- It recommended the Chinese government take prompt steps to release all those detained in training centres, prisons or detention facilities.
- The information was assessed against applicable international human rights law, and builds on the work of a number of UN human rights mechanisms.

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