

Indian Oil- NTCA MoU on 'Project Cheetah'

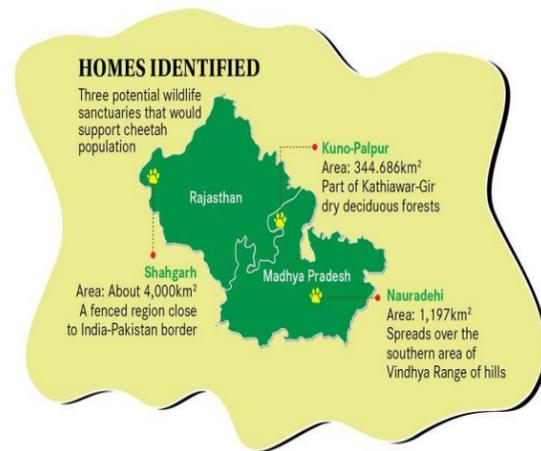
❖ Context

- Recently Indian Oil signed an MoU with **National Tiger Conservation Authority (NTCA)** for transcontinental relocation of 'Cheetah' in its historical range in India.

❖ Key Highlights

- This is in continuation with the MoU signed on 20th July 2022 between Government of India and Government of the Republic of Namibia on wildlife conservation and sustainable biodiversity utilization, for establishing the cheetah into the historical range in India.
- Indian Oil is the first corporate which has come forward to support the "Project Cheetah" under CSR, as the project has not only national importance but is also essential for **balancing the ecosystem**.
- Under this project, a source population of **8-10 Cheetahs** will be flown in from Namibia and South Africa and will be introduced at **Kuno National Park, Madhya Pradesh**.

- It is a national project involving National Tiger Conservation Authority (NTCA), Govt. of India and the State Govt. of Madhya Pradesh.



- NTCA is the **nodal agency** authorized by MoEF&CC for funding, supervision and hand holding.
- The Cheetah introduction project in Kuno National Park involves creating a 500-hectare predator proof enclosure for a 'soft release' of the feline.
- Introduction would commence in a phased manner.

Cheerag Scheme

❖ Context

- Senior politicians and teachers' bodies in Haryana have raised questions on the government's **Cheerag scheme**.



❖ What is Haryana's Cheerag Scheme?

- Haryana government recently launched the "**Chief Minister Equal Education Relief, Assistance and Grant (Cheerag)**" scheme to offer "free education" to Economically Weaker Section (EWS) students of government schools in "budget" private schools.
- Under the scheme, government school students whose parents have an annual verified income of less than **Rs 1.8 lakh** can enroll in private schools from Class II to XII.
- The government will reimburse Rs 700 per student from Classes II to V, Rs 900 per student from Classes VI to VIII, and Rs 1,100 per student from Classes IX to XII.

- The Cheerag scheme is optional; those who are willing to go to private schools can go. Those who want to stay in government schools can continue their studies there.
- The **Cheerag scheme** is meant only for a few years, till a scheme under the **Right to Education (RTE) Act** replaces it.
- **The RTE Act** has provisions to provide admission up to **25%** of private schools' strength to EWS families and Scheduled Castes for Classes I to VIII without any expenses.
- Under the RTE Act, admissions can be done only in Class 1 in private schools to get the relief of free education.
- **Key Concern:** The union leaders and many teachers have apprehensions that the scheme may be aimed at encouraging private schools at the cost of government schools.

World's Largest Floating Solar Plant

❖ Context

- The world's largest floating solar project is set to be built on river Narmada as the Madhya Pradesh government signed a contract for the first phase of the project recently.



❖ Key Highlights

- Floating Solar Project on Narmada, which is to be built on the backwaters of the Omkareshwar Dam, will be one of only 10 floating solar plants in the world.
- The **600 MW-capacity infrastructure** will be the world's largest solar project to be built on water.

❖ Significance

- No land is needed for the project, hence people would not be displaced.

- Due to the installation of solar panels on the surface of the water, the water will not evaporate as steam. With this, **60 to 70 per cent** of water will be saved.
- This is equal to the drinking water of Bhopal residents for 124 days.
- Installation of the plant would reduce algae growth and the water will remain drinkable.
- The government claims emission of 12 lakh metric tonnes of carbon-dioxide will be prevented through the project which is "equivalent to planting one crore 52 lakh trees".

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SSLV

❖ Context

- The recently launched **India's smallest launch vehicle**, named Small Satellite Launch Vehicle (SSLV), suffered a setback.

❖ What Went Wrong?

- While the three solid fuel-based propulsion stages worked normally, the satellites were injected into a **wrong orbit**, due to failure of logic to identify a sensor failure.
- SSLV-D1 placed the satellites into 356 km x 76 km elliptical orbit instead of 356 km circular orbit.
- When a satellite is placed in such an orbit, it cannot maintain course for a long time and falls off.

❖ About the Vehicle

- **Three stage solid fuelled** rocket, weighing 110 tonnes.
- A completely new rocket, not a variant of any other.
- Built for commercial launch of small satellites into **Low Earth Orbit**.
- Designed to carry objects ranging up to **500 kg** to a **500-km planar orbit**.
- A low cost vehicle due to its low turnaround time, minimal launch infrastructure requirements, and increased production rate from industries.
- ISRO's plan is not to operate SSLV as a commercial activity but to demonstrate the cost effective technology that can be taken over by the industry.

• New changes :

- Designed in such a way that it can be assembled in a vertical or horizontal way.
- 90% of electronics used were of cheap commercial grade rather than aerospace grade.
- New algorithms and software depend much more on NAVIC.
- Indian industries roped in for manufacturing components.
- The recent SSLV had carried :
 - 135 kg Earth Observation Satellite called **Microsat 2A or EOS-02** into low earth orbit of about 350 km.
 - **AzadiSat** satellite, the 8-kg **CubeSat**, developed by 750 girls, carries 75 different payloads, each weighing around 50 grams, that will conduct femto-experiments.
- **Femtochemistry** is the area of physical chemistry that studies chemical reactions on extremely short timescales (approximately 10–15 seconds or one femtosecond).

Indian Virtual Herbarium

❖ Context

- The Prime Minister has recently described the Indian Virtual Herbarium as an example of how digital tools can help us connect to our roots.

❖ Key Highlights



- With details of about **one lakh plant specimens**, it is the **biggest virtual database of flora** in the country.
- Herbarium specimens are considered important tools for plant taxonomy, conservation, habitat loss and even climate change.
- Developed by scientists of the **Botanical Survey of India (BSI)** and inaugurated in Kolkata recently.

- Each record in the digital herbarium includes an image of the preserved plant specimen, scientific name, collection locality, and collection date, collector name, and barcode number.
- The digital herbarium includes features to extract the data state-wise, and users can search plants of their own states, which will help them identify regional plants and in building regional checklists.
- The portal provides most valuable historical collections of botanists like William Roxburgh, Nathaniel Wallich and Joseph Dalton Hooker, considered the founding fathers of botany in India.
- There are approximately **three million plant specimens** in the country which are with different herbaria located at zonal centres of the BSI.
- The digital herbarium has some of the oldest botanical specimens dating as early as **1696**.

News in Between the Lines

Article 105

❖ Context

- The Rajya Sabha Chairman said recently that members have a wrong notion that they have a privilege from action by the investigating agencies while the session is on.

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❖ Key Highlights

- Article 105 of the constitution grants powers, privileges to Houses of Parliament, its committees and members.
- An MP enjoys certain privileges so that they can perform their parliamentary duties without any hindrance.
- One such privilege is **freedom of speech**.
- Another provision is that an **MP cannot be arrested in a civil case**, 40 days before the commencement of the session or committee meeting and 40 days thereafter.
- This privilege is already incorporated under **section 135A** of the Civil Procedure Code. However, in criminal matters, MPs/MLAs are not on a different footing than a common citizen.
- It means that an **MP/MLA does not enjoy any immunity from being arrested in a criminal case** during the session or otherwise.

Ration Mitr



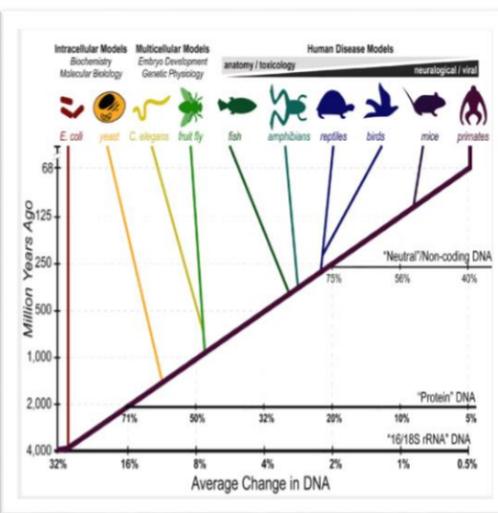
❖ Context

- The Centre has launched a common facility to register names in ration cards on pilot basis for 11 States and Union Territories.

❖ Key Highlights

- The facility will enable these states to **identify and verify the eligible beneficiaries** for coverage under the National Food Security Act.
- The software is developed by the National Informatics Centre.
- It can be used to enrol people of any state.
- The NFSA provides food security coverage for 81.35 crore persons in the country. The present NFSA coverage is about **79.74 crore**.

Molecular Clock



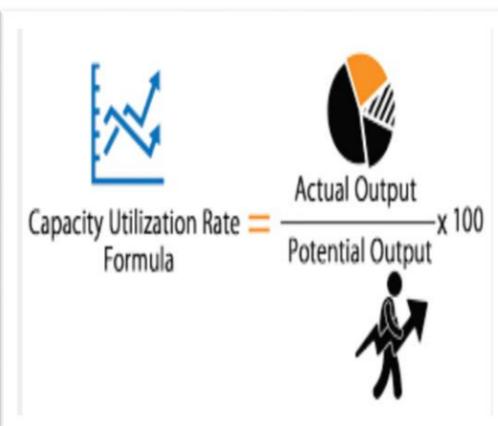
❖ Context

- A species of bat and a primitive lemur, dated 53 million years, have been found in Gujarat's Vastan lignite mine.

❖ Key Highlights

- Many life forms in Madagascar have affinities to lineages found in India (3,800 km away) rather than Africa (413 km). A powerful technique, the molecular clock, is used to estimate the time when two forms of life diverged from each other.
- It is based on the observation that evolutionary changes (mutations) in the sequence of an RNA or a protein molecule occur at a fairly constant rate.
- A direct consequence of this constancy is that the **genetic difference between any two species is proportional to the time since these species last shared a common ancestor**.
- According to plate tectonics theory, both the landmass were joined together and broke free around 115 million years ago.
- **India, thus, occupies a pivotal position in the distribution of life forms in Asia, Madagascar and Africa.**

Capacity Utilisation



❖ Context

- The capacity utilisation in the manufacturing sector has picked up over the last three quarters to 75.3 % by March-end compared with the long-term average of 73.7%.

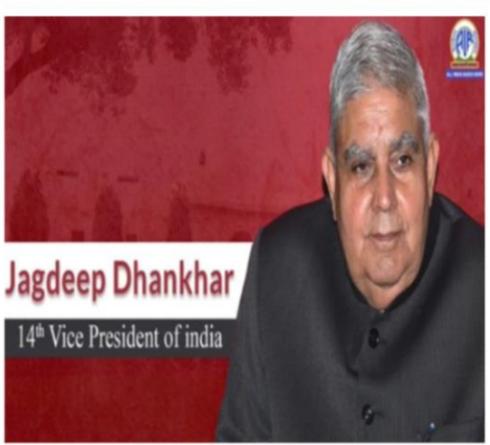
❖ Key Highlights

- It is the ratio of actual output to the potential output that can be produced under normal conditions.
- Higher capacity utilisation, accompanied by order book growth, **signals robust demand conditions** in the economy.
- In an economy, the production processes respond to changing demand and it fluctuates accordingly. Rising demand may translate into upward pressure on the general price level and so higher capacity utilisation can be accompanied by a rise in inflation. It brightens the **prospects for fresh investments** by companies.

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14th Vice President of India



❖ Context

➤ Recently **Jagdeep Dhankhar** has been elected as the 14th Vice President of India.

❖ Key Highlights

- Out of 780 votes of Members of Parliament, Jagdeep Dhankhar got 528 votes.
- The vice president is also the chairman of the Rajya Sabha.

❖ Election of the Vice-President

- The Vice-President is elected by an electoral college consisting all the members of both Houses of Parliament.
- Elected in accordance with the system of proportional representation by means of the **single transferable vote** & the voting in such election is by secret ballot.
- The Vice-President is not a member of either House of Parliament or of a House of a Legislature of any state.
- If a member of either House of Parliament or of a House of a Legislature of any state is elected as Vice-President, he is deemed to have vacated his seat in that House on the date he/she enters his office as Vice-President.

Bihar Astronomical Observatory



❖ Context

➤ Recently the astronomical observatory at the LS College in Bihar's Muzaffarpur was included in UNESCO list of Important Endangered Heritage Observatories of the World.

❖ Key Highlights

- There is a growing chorus among heritage enthusiasts to conserve and revive **Taregana**, a settlement 30 kilometres south of the state capital where Aryabhata, the ancient astronomer and mathematician, is believed to have set up his observatory.
- **Taregana**, a name derived from Sanskrit words Tarak Ganana (counting of stars), drew worldwide attention in July 2009 it when the US space agency NASA declared it the most suitable site to witness the total solar eclipse which occurred that year.
- The state government has made plans to explore and identify the sites in Bihar believed to have been related to astronomer Aryabhata - **Khagaul, Taregana Dih and Taregana Top** - all near Patna, and develop these to create an astro-tourism circuit in the state.

Launch of Reusable Spacecraft



❖ Context

➤ China recently successfully launched a reusable experimental spacecraft using a Long March-2F carrier rocket from the **Jiuquan Satellite Launch Center**.

❖ Key Highlights

- After a period of in-orbit operation, the spacecraft will return to its planned landing site in China.
- It will test reusable technologies and in-orbit service technologies during its mission, providing technological support for the peaceful use of space.
- **Orbital Operation:** It represents a controlled change of conditions of a technical system in space. The change may pertain to the motion of the system or to its configuration.



• Benefits of Reusing Rockets:

- The clear advantage of reusing a rocket is cost reduction and an increase in the launch frequency.
- It would decrease space debris.
- Reusable spacecrafts may provide better opportunities to help transport astronauts.
- It will enable civilians to opt for space tours.

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