

“Amrit Udyan”

❖ Context

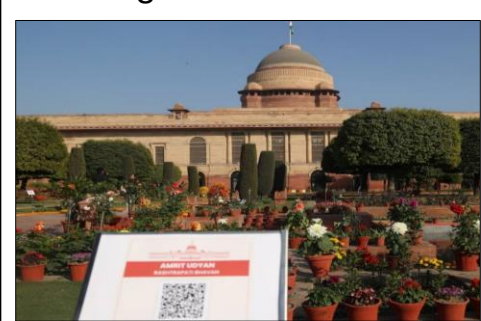
- The iconic Mughal Gardens at the Rashtrapati Bhavan (President's House) in Delhi **have been renamed**.

Key Highlights:

- The collective identity of all the gardens at Rashtrapati Bhavan will be ‘**Amrit Udyan**’.
- Earlier there were descriptive identities, now a new identity has been given to the garden.

History of Mughal Gardens in India:

- The Mughals were known to appreciate gardens. In **Babur Nama**, Babur says that his favourite kind of garden is the Persian **charbagh style** (literally, four gardens).
- The **charbagh structure** was intended to create a representation of an earthly utopia jannat in which humans co-exist in perfect harmony with all elements of nature.
- **Defined by its rectilinear layouts**, divided in four equal sections, these gardens can be found across lands previously ruled by the Mughals.
- From the gardens surrounding Humayun's Tomb in Delhi to the Nishat Bagh in Srinagar, all are built in this style – giving them the **moniker of Mughal Gardens**.
- A **defining feature** of these gardens is the use of waterways, often to demarcate the various quadrants of the garden.



- These were not only crucial to maintain the flora of the garden, but they also were an important part of its aesthetic. Fountains were often built, **symbolising the “cycle of life”**.

The Gardens At The New Viceroy's House:

- In 1911, the British decided to shift the Indian **capital from Calcutta to Delhi**.
- About 4,000 acres of land was acquired to construct the Viceroy's House with **Sir Edwin Lutyens** being given the task of designing the building on Raisina Hill.
- **Lady Hardinge**, the wife of the then Viceroy, urged planners to create a Mughal-style garden.
- She was inspired by the book Gardens of the Great Mughals (1913) by **Constance Villiers-Stuart** as well as her visits to Mughal gardens in Lahore and Srinagar.

The Famous Roses Of The Garden:

- Though the layout of the garden was in place by 1917, the planting was taken up only in **1928-29**.
- Director of horticulture **William Mustoe**, who planted the garden, is said to have introduced more than 250 different varieties of hybrid roses.
- They include **Adora, Mrinalini, Taj Mahal, Eiffel Tower, Scentimental**, Oklahoma (also called Black Rose), Black Lady, Blue Moon and Lady X.
- There are also roses **named after personalities**: Mother Teresa, Raja Ram Mohan Roy, Abraham Lincoln, Jawahar Lal Nehru, and Queen Elizabeth, Arjun and Bhim.

Personal Touch By The Presidents:

- **C Rajagopalachari**, the last Governor General of India, himself ploughed the lands and dedicated a section of the garden to foodgrains, it is known as Dalikhana.
- **President R Venkatraman** added a cactus garden and **APJ Abdul Kalam** added many theme-based gardens: from the musical garden to the spiritual garden.

The Medical Termination of Pregnancy (Amendment) Act, 2021

❖ Context

- Recently, In separate orders, the **Delhi and Bombay HCs have allowed exemptions** beyond what is laid down in Medical Termination of Pregnancy (Amendment) Act, 2021.

Key Highlights:

- Justice **Swarana Kanta Sharma** of Delhi High Court has **allowed a minor** who had been raped to terminate her **25-week pregnancy**.
- He framed guidelines for officers investigating cases of rape & sexual assault where the pregnancy exceeds 24 weeks.
- **Supreme Court's 2022 Judgment**
 - SC expanded the scope of reproductive rights and bodily autonomy under the MTP Act, 1971 to groups such as unmarried women, transgenders, and genderqueer groups.
 - Rights available to married women under **Medical Termination of Pregnancy Act, 1971**, to abort a foetus will also be available to unmarried ones.
 - The distinction between married & unmarried women under the abortion laws is "artificial & constitutionally unsustainable" & perpetuates the stereotype that only married woman are sexually active.

• Jan. 20 Bombay HC Judgment

- It **allowed the termination of a 33-week-old pregnancy** on account of severe abnormalities in the foetus.
- The apex court's 2022 judgment was build on the aspects of a woman's "reproductive autonomy", "reproductive choice", and "right to dignity".

Medical Termination of Pregnancy (Amendment) Act, 2021

- The **MTP (Amendment) Act, 2021**, had introduced a key change in Section 3 by extending the **upper limit for termination of pregnancy from 20 to 24 weeks**.
- For **pregnancies up to 20 weeks**, termination is allowed under the **opinion of one registered medical practitioner**.
- For **pregnancies between 20-24 weeks**, requires the opinion of **two registered medical practitioners in this case**.

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- For pregnancies within 20 weeks, termination can be allowed if-
 - The continuance of the pregnancy would involve a risk to the life of the pregnant woman or of grave injury to her physical or mental health;
 - There is a substantial risk that if the child was born, it would suffer from any serious physical or mental abnormality.

The MTP Act 1971 and The MTP Act Amendments 2021		
	MTP Act 1971	The MTP Amendment Act 2021
Indications (Contraceptive failure)	Only applies to married women	Unmarried women are also covered
Gestational Age Limit	20 weeks for all indications	24 weeks for rape survivors Beyond 24 weeks for substantial fetal abnormalities
Medical practitioner opinions required before termination	One RMP till 12 weeks Two RMPs till 20 weeks	One RMP till 20 weeks Two RMPs 20-24 weeks Medical Board approval after 24 weeks
Breach of the woman's confidentiality	Fine up to Rs 1000	Fine and/or Imprisonment of 1 year

Cows and Sheep Contribute to Climate Change

❖ Context

- Recently, Microsoft co-founder Bill Gates invested in an Australian climate technology start-up that aims to curtail the methane emissions of cow burps.

Key Highlights:

- The start-up, **Rumin8**, has received funding worth \$12 million from Breakthrough Energy Ventures, which Gates created in 2015.
- Rumin8 is developing a **variety of dietary supplements to feed to cows** in a bid to reduce the amount of methane they emit into the atmosphere.
- The supplement includes **red seaweed**, which is believed to drastically cut methane output in cows.

Production of Methane from Cows & Other Animal:

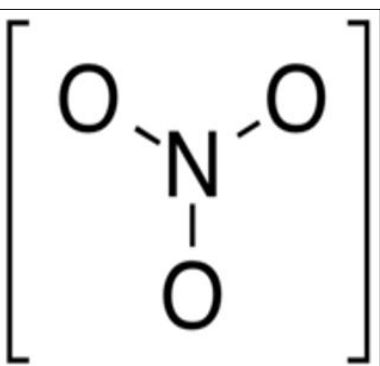
- Ruminant species are hooved grazing or browsing herbivores that chew cud.
- Ruminants such as cows, sheep, goats, and buffaloes have a **special type of digestive system** that allows them to break down and digest food that non-ruminant species would be unable to digest.
- Stomachs of **ruminant animals have four compartments**, one of which, the rumen, helps them to store partially digested food and let it ferment.
- This partially digested and fermented food is regurgitated by the animals who chew through it again and finish the digestive process.
- However, as grass and other vegetation ferments in the rumen, it **generates methane, a potent greenhouse gas**.
- Ruminant animals such as cows and sheep release this methane mainly through burping.

Methane: A Big Problem:

- Methane is one of the **main drivers of climate change**.
- It is **responsible for 30 per cent of the warming** since preindustrial times, second only to carbon dioxide.
- Over a 20-year period, methane is 80 times more potent at warming than carbon dioxide.
- It's also the primary **contributor to the formation of ground-level ozone (bad ozone)**.
- Carbon dioxide remains in the atmosphere for much longer than methane.
- Methane is roughly 25 times more powerful at trapping heat in the atmosphere.
- It is estimated that the ruminant digestive system is responsible for **27 per cent of all methane emissions from human activity**.

News in Between the Lines

Nitrate Radicals



❖ Context

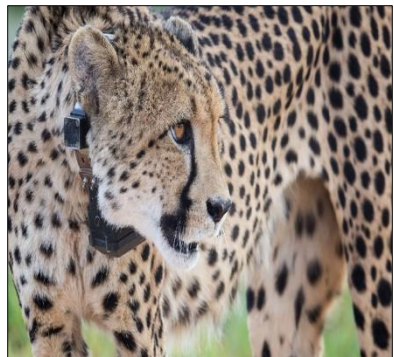
- Recently, a new study has found that **parts of India and China are hotspots for the night-time production of nitrate radicals**.

❖ Key highlights:

- Cities in Europe and the United States** have experienced a **decline** in the nocturnal production of nitrate radicals.
- The process of nocturnal oxidation driven by nitrate radicals is an important but poorly understood process in atmospheric chemistry.
- Nitrate Radical**
 - Trioxidonitrogen or nitrate radical is an oxide of nitrogen with formula NO₃.
 - It is consisting of three oxygen atoms covalently bound to a nitrogen atom.
 - This highly unstable blue compound has not been isolated in pure form, but can be generated and observed as a short-lived component of gas, liquid, or solid systems.
- Consequence**
 - Nitrate radicals will oxidise gas pollutants such as volatile organic compounds (VOCs), which will then generate ozone and secondary organic aerosol.
 - So this deteriorates air quality.
 - Nitrate radicals can increase the amount of deadly ozone and PM_{2.5} particulate matter in the atmosphere.

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Cheetah To India From South Africa



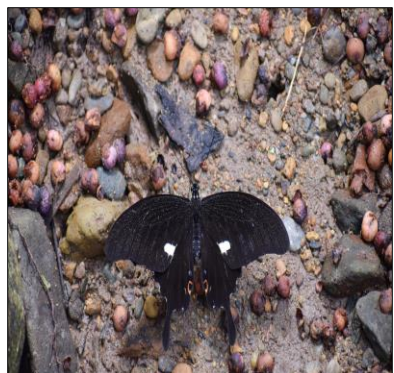
❖ Context

- Inter-Governmental Agreement to re-introduce cheetah to India from South Africa concluded.

❖ Key Highlights:

- In terms of the agreement, an initial **batch of 12 cheetahs** is to be flown from South Africa to India during February 2023.
- The **cats will join** eight cheetah introduced to India from Namibia during 2022.
- **It would aim to** achieve a number of ecological objectives, including re- establishing the function role of cheetah within their historical range in India and improving the enhancing the livelihood options and economies of the local communities.
- Following the import of the 12 cheetah in February, the plan is to translocate a further **12 annually for the next eight to 10 years**.
- **IUCN Conservation Status- Critically Endangered.**

Noble's Helen (Papilio Noblei)



❖ Context

- Recently, butterfly enthusiasts recorded the “**extremely rare**” **Noble's Helen** from three locations in the **Namdapha National Park of Arunachal Pradesh**.

❖ Key Highlights:

- **Scientific Name-** Papilio noblei.
- The species is known to be **very rare in occurrence** in its previously known ranges.
- The Noble's Helen is **closest to the Papilio antonio from the Philippines**.
- It is **characterised by** a much large dorsal white spot.
- Papilio noblei sports a consistent white spot and has a complete row of red lunules on the underside of the hind wing and discal white areas on the upper side of the hind wing.
- **Distribution**
 - It was once common in the montane forest at moderate elevations in **northern Thailand**.
 - Apart from Thailand, this species of swallowtail butterfly has been reported from **Myanmar, Yunnan and Hubai regions of China, Laos, Cambodia and Vietnam**.
- **Significance of Butterflies**
 - Butterflies are considered **vital indicators** representing the state of biodiversity and key ecosystem functions.

Lucy Mission



❖ Context

- Recently, NASA announced that it is **adding a new target for the Lucy mission** as the spacecraft goes on its more than 6-billion-kilometre-long journey to study the Jupiter trojan asteroids.

❖ Key Highlights:

- The new target is a small main-belt asteroid.
- Lucy will get an up-close view of it on November 1, 2023, to conduct an engineering test of the spacecraft's asteroid-tracking navigation system.
- The asteroid is closer in size to the asteroids visited by the **DART mission** and the **OSIRIS-REx mission** than the previously visited main belt asteroids.

❖ About Lucy Mission:

- The Lucy Mission refers to a NASA mission to study several Trojan asteroids near Jupiter.
- The mission was named after the famous fossil, Australopithecus afarensis (nicknamed "Lucy"), as the Trojans are ancient fossils of the Solar System.
- The mission was **launched in 2021**.
- Its main objectives are to study the physical and chemical properties of the Trojans, determine the origin and evolution of the Jovian system, and search for signs of life.

XR Startup Program

❖ Context

- MeitY, Meta Shortlist 120 Startups under XR Startup Program.

❖ Key Highlights:

- The initiative, which aims to discover, nurture and accelerate XR-related startups in the country, has two pillar.

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	▪ The Accelerator Programme. ▪ The Grand Challenge. • Of the startups selected under the accelerator, more than 30% are from tier 2 and tier 3 cities. 20% of the selected cohort is led by women. • Backed by Meta's \$50 Mn XR Programs and Research Fund, the accelerator will support 40 early-stage XR startups with a grant of INR 20 Lakhs each. • IT will encourage early-stage innovators in sectors like Education, Learning and Skills, Healthcare, Gaming and Entertainment, Agritech & Climate Action and Tourism & Sustainability.
National Summit on Quality of Biologicals 	❖ Context ➤ Union Minister for Health and Family Welfare virtually inaugurates National Summit on Quality of Biologicals. ❖ Key Highlights: • The National Summit will act as a platform to bring together stakeholders, regulatory authorities & academia for interaction on various aspects of quality assurance of biologicals. • Biological therapeutics, also referred to as Biologicals, are those class of medicines which are grown and then purified from large-scale cell cultures of bacteria or yeast, or plant or animal cells. • Biologicals are a diverse group of medicines which includes vaccines, growth factors, immune modulators, monoclonal antibodies, as well as products derived from human blood and plasma. • What distinguishes biologicals from other medicines is that these are generally proteins purified from living culture systems or from blood, whereas other medicines are considered as 'small molecules' and are either made synthetically or purified from plants.
National Logistic Portal (marine) 	❖ Context ➤ Union Minister for Ports, Shipping and Waterways and Ayush inaugurated The National Logistics Portal (marine) in New Delhi. ❖ Key Highlights: • The National Logistic Portal (marine) (NLP) is a project of national importance, as envisaged by the Ministry of Ports Shipping Waterways and the Ministry of Commerce & Industry. • It is a one-stop platform aimed at connecting all the stakeholders of the logistics community using IT, to improve efficiency and transparency by reducing costs and time delays and achieving easier, faster, and more competitive offerings of services, to promote the growth of the logistics sector and thereby improve trade. • NLP will be a single window for all trade processes of the logistics sector spread across the country covering all modes of transport in the waterways, roadways, and airways along with an E-marketplace to provide a seamless end-to-end logistic service coverage. • NLP Is a one stop marketplace where all logistic stakeholders are integrated for easier, speedier & competitive services thereby promoting trade and growth.

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