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ANTHROPOCENE

Context:

- Recently, a committee of scientists voted down a proposal to declare the start of the **Anthropocene (or the Human Epoch)** in geologic time.

The Earth's Geologic Time Scale:

- The geologic time scale provides the official framework for our understanding of **Earth's 4.5 billion-year history**.
- Geoscientists use the **Geologic Time Scale (GTS)** to measure the history of the planet. The GTS (since the formation of Earth, roughly 4.54 billion years ago) is divided, in descending order of duration, into **Eons, Eras, Periods, Epochs and Ages**.
 - For example, we currently live in the **Meghalayan Age**. It's part of the **Holocene Epoch**, which began at the end of the last ice age 11,700 years ago, when ice caps and glaciers began retreating.
- The **Holocene is part of the Quaternary Period**, the most recent division of the **Cenozoic Era**, which in turn is part of **Phanerozoic Eon** — which spans from 539 million years ago to the present.

Geological Time Scale

Eons	Era	Period	Epoch	Age/ Years Before Present	Life/ Major Events
Phanerozoic	Cainozoic (From 65 million years to the present times)	Quaternary	Holocene	0 - 10,000	Modern Man
			Pleistocene	10,000 - 2 million	Homo Sapiens
		Tertiary	Pliocene	2 - 5 million	Early Human Ancestor
			Miocene	5 - 24 million	Ape: Flowering Plants and Trees
			Oligocene	24 - 37 million	Anthropoid Ape
	Palaeozoic 245 - 570 Million	Mesozoic 65 - 245 Million Mammals	Eocene	37 - 58 Million	Rabbits and Hare
			Palaeocene	57 - 65 Million	Small Mammals : Rats - Mice
			Cretaceous	65 - 144 Million	Extinction of Dinosaurs
		Permian	Jurassic	144 - 208 Million	Age of Dinosaurs
			Triassic	208 - 245 Million	Frogs and turtles
Palaeozoic 245 - 570 Million	Carboniferous	Devonian	245 - 286 Million	Reptile dominate-replace amphibians	
			360 - 408 Million	First Reptiles: Vertebrates: Coal beds	
	Silurian	Ordovician	408 - 438 Million	Amphibians	
			438 - 505 Million	First trace of life on land: Plants	
	Cambrian	505 - 570 Million	First Fish No terrestrial Life : Marine Invertebrate		

About Anthropocene Epoch:

- It was **coined in 2000** by scientists **Paul Crutzen and Eugene Stoermer**, and is **proposed as a new geological epoch** to reflect the significant alterations to the planet caused by human activities.
- The term is derived from the **Greek words 'anthropo'** meaning **'human'** and **'-cene'** used in names of **geological epochs**.

The Proposed 'Human Epoch':

- The Holocene epoch began some 11,700 years ago, at the end of the **Last Glacial Period (LGP)**.
 - During the LGP, up to 25% of the Earth's land surface was covered by glaciers, the mean sea level

was up to 400 feet lower, and the average temperature fell to 8°C.

- It saw the warming of the Earth, which closely corresponded with the **rise and proliferation of human beings**.
 - ♦ While *Homo sapiens* as a species had evolved well before the Holocene began, all of humanity's recorded history falls in this epoch.
- The **effects of human activities on Earth** can be seen in biodiversity loss, climate change, and other significant changes to Earth's geology, landscape, limnology, ecosystems, and climate.
- The recent **proposal** was aimed to establish the Anthropocene as a distinct epoch in geologic time, marking a transformative period for Earth as a result of human activity.
 - ♦ It is argued that evidence of human activity is unmissable and possibly indelible, from the peak of Mount Everest to the depths of the Mariana Trench.

The Debate Over the Start of the Anthropocene:

- Various start dates for the Anthropocene have been proposed, ranging from the beginning of the **Neolithic Revolution (12,000–15,000 years ago)**, to as recently as the 1960s.
- Some proponents of naming a new epoch suggest the **Industrial Revolution**, when humans started burning fossil fuels and emitting greenhouse gases such as carbon dioxide, marked the Anthropocene's beginnings.
- Others argue it started in the 1950s when **humanity's impact on the planet** began to surge.

What is the Controversy?

- The former head of the **Anthropocene Working Group** and current chair of the **Subcommission on Quaternary Stratigraphy**, has demanded the result of the vote be disregarded due to '**serious violations**' of the statutes.
- The **Subcommission on Quaternary Stratigraphy (SQS)** voted 12 to 4 against the proposal, with two abstentions.
- The **International Union of Geological Sciences (IUGS)** committee determined that adding an Anthropocene epoch — and **terminating the Holocene** — was not supported by the standards used to define epochs according to chronostratigraphy.

The Vote Against the Anthropocene:

- Despite the widespread use of the term, the **IUGS** has not officially recognized the Anthropocene as a new geological epoch, and **terminating the Holocene** — was **not supported by the standards** used to define epochs according to chronostratigraphy.
- The committee determined that adding an Anthropocene epoch — and terminating the Holocene — was not supported by the standards used to define epochs according to chronostratigraphy.

The Implications:

- Despite the down vote, the concept of the Anthropocene as a transformative time for Earth as a result of human activity remains relevant.
- The Anthropocene concept has already been established in popular culture and is even being used as a warning flag by environmental organisations.

Conclusion:

- The debate over the Anthropocene highlights the complexities involved in defining geological epochs.
- While the proposal to declare the start of the Anthropocene was voted down, the concept continues to hold relevance in discussions about human impact on the planet.

INDIAAI MISSION

In Context

- The Union Cabinet approved the **IndiaAI Mission** for the **next five years**.

About

- The Mission will be implemented by '**IndiaAI**' Independent Business Division (IBD) under **Digital India Corporation (DIC)**.
- The IndiaAI mission will establish a **comprehensive ecosystem** catalyzing AI innovation through **strategic programs and partnerships** across the **public and private sectors**.

Key Features of IndiaAI Mission

- **IndiaAI Compute Capacity:** The ecosystem will **comprise AI compute infrastructure of 10,000 or more Graphics Processing Units (GPUs)**, built through public-private partnership.
 - ♦ Further, an **AI marketplace** will be designed to offer AI as a service and pre-trained models to AI innovators.

- ♦ It will act as a **one-stop solution** for resources critical for AI innovation.
- **IndiaAI Innovation Centre:** It will undertake the development and deployment of **indigenous Large Multimodal Models (LMMs)** and domain-specific foundational models in critical sectors.
- **IndiaAI Datasets Platform:** The Platform will streamline access to quality non-personal datasets for AI Innovation.
 - ♦ A unified data platform will be developed to provide a one-stop solution for seamless access to non-personal datasets to Indian Startups and Researchers.
- **IndiaAI Application Development Initiative:** The initiative will focus on developing/scaling/promoting adoption of **impactful AI solutions** with potential for catalyzing **large scale socio-economic transformation**.
- **IndiaAI FutureSkills:** It is conceptualized to **mitigate barriers to entry into AI programs** and will **increase AI courses** in undergraduate, masters-level, and Ph.D. programs.
- **IndiaAI Startup Financing:** It is conceptualized to **support and accelerate deep-tech AI startups** and provide them streamlined access to funding to enable futuristic AI Projects.
- **Safe & Trusted AI:** The Safe & Trusted AI pillar will enable the **implementation of Responsible AI projects** including the development of indigenous tools and frameworks, self-assessment checklists for innovators, and other guidelines and governance frameworks.

Significance

- The approved IndiaAI Mission will **propel innovation and build domestic capacities** to ensure the **tech sovereignty of India**.
- It will also create **highly skilled employment opportunities** to harness the demographic dividend of the country.
- It will drive responsible, inclusive growth of India's AI ecosystem.
- IndiaAI Mission will help India demonstrate to the world how this **transformative technology** can be used for **social good and enhance its global competitiveness**.

AADHAAR SEEDING WITH VOTER ID

In Context

- Recently a writ petition in the Supreme Court was filed against offering only two choices during the Electoral process: either provide the Aadhaar

number or declare that individual doesn't have an Aadhaar number.

About

- The Election Commission had proposed to the Government to **amend the Representation of the People Act, 1950** to remove the requirement of a **"sufficient cause" for not providing Aadhaar**.
- Opting for the declaration potentially meant that electors **who did not want to give their Aadhaar details** would **have to make a false declaration** of not having an Aadhaar card, which is an **offence punishable under the RP Act, 1950**.

What is Aadhaar?

- Aadhaar is a **12-digit unique-identity number** issued to all Indian residents based on their **biometric and demographic data**.
- The data is collected by the **Unique Identification Authority of India (UIDAI)**, is a **statutory authority** established in **2016**.

Concerns

- **Data Security:** There have been instances of data breaches and reports of Aadhaar details being leaked or misused, raising questions about the safeguard of the sensitive information.
- **Inclusion Errors:** There have been cases of exclusion from government services due to errors in Aadhaar data or authentication failures.
- **Mandatory Usage:** Aadhaar has been made mandatory for various services and schemes, which some view as an infringement on individual privacy rights.
- **Linkage with Other Databases:** Aadhaar is often linked with other databases and services, raising concerns about the aggregation of personal data and the potential for misuse or unauthorized access.

Aadhaar in the Light of Right to Privacy

- In **2017**, the Supreme Court delivered a historic judgment in the case of **Justice K.S. Puttaswamy vs Union of India**, affirming that the **right to privacy** is indeed a **fundamental right under the Article 21 of the Constitution**.
- This judgment laid down the foundation for **assessing the constitutionality of Aadhaar in light of privacy concerns**.
 - ♦ Following the Supreme Court's ruling, there was increased scrutiny of the Aadhaar project's compliance with privacy principles.
 - ♦ The Supreme Court, in its subsequent judgments, imposed **limitations on the**

mandatory use of Aadhaar for various services.

- ♦ The court emphasized the **importance of protecting biometric data**, stating that any unauthorized use or storage of biometric information would **violate privacy rights**.
- ♦ While the government initially pushed for Aadhaar to be mandatory for numerous services, the Supreme Court reaffirmed that **Aadhaar enrollment must be voluntary**.

Way Ahead

- Despite these concerns, Aadhaar has helped in **streamlining government services, reducing corruption, and promoting financial inclusion**.
- However, **addressing privacy and security issues** remains crucial to ensure that Aadhaar is used responsibly and respects individuals' rights to privacy and data protection.

NEWS IN SHORT

INS JATAYU BASE

Context

- The Indian Navy has established **INS Jatayu base** on Minicoy Island in Lakshadweep.

About

- This is the **second naval base** in Lakshadweep, following **INS Dweep prakshak in Kavaratti** which was commissioned in **2012**.
- The base will have Radars, airfield, and BrahMos supersonic cruise missiles.

Significance

- The upgrade is part of a long-term capability development plan which will shore up **India's security footprint in the islands**.
- This is especially significant as the **Chinese naval footprint**, which includes 'research vessels', has seen massive expansion in the Indian Ocean.

Lakshadweep

- Lakshadweep, India's **smallest Union Territory**, is an archipelago consisting of 36 islands with an area of 32 sq km.
- It comprises 12 atolls, three reefs, five submerged banks and 10 inhabited islands. All Islands are 220 to 440 km away from the coastal city of Kochi in Kerala.

NATIONAL CREATORS AWARDS

Context

- Prime Minister Modi presented the **first ever National Creators Award** at Bharat Mandapam, New Delhi.

About

- The National Creators Award is an effort to recognize excellence and impact across different domains.
- The award is envisioned as a **launch pad for using creativity** to drive positive change.
- The award will be provided across twenty categories including the Best Storyteller Award; The Disruptor of the Year; Green Champion Award; Best Creator For Social Change; Best Travel Creator Award; Swachhta Ambassador Award; etc.

PRITZKER ARCHITECTURE PRIZE

Context

- Japanese architect **Riken Yamamoto** was declared winner of the 2024 Pritzker Architecture Prize.

About

- The Pritzker Architecture Prize is the highest international honor for architects.
- The Prize was founded in **1979** by **Jay A. Pritzker**, funded by the Pritzker family and sponsored by the Hyatt Foundation.
- **The Pritzker and Japan:** Architects from Japan have won the largest number of Pritzkers.
 - ♦ **Kenzo Tange** was the first Japanese winner in 1987, and **Yamamoto** is the ninth laureate from Japan.
- **The only Indian** laureate is the late **Balkrishna Doshi (2018)**.

MEASLES AND RUBELLA CHAMPION AWARD

In Context

- India received the **Measles and Rubella Champion Award** for its exemplary efforts in combating these Diseases.

About

- **Awarded by:** Measles and Rubella Partnership at the American Red Cross Headquarters in Washington D.C., USA.

- Measles and Rubella are vaccine preventable diseases (VPDs) and MR Vaccine is part of India's Universal Immunization Programme since 2017.
- **Measles** : It is caused by a **single-stranded, enveloped RNA virus** with 1 serotype.
 - ♦ Symptoms include a high fever, cough, runny nose and a rash all over the body.
- **Rubella**: It is also known as **German measles** or three-day measles, is an infection caused by the **rubella virus**.
- Symptoms include fever, red rash blotchy and swollen lymph glands.

UTTAR POORVA TRANSFORMATIVE INDUSTRIALIZATION SCHEME

Context

- The Union Cabinet approved the Uttar Poorva Transformative Industrialization Scheme, 2024 (UNNATI – 2024).

About

- Government of India has formulated New Industrial Development Scheme, UNNATI as a Central Sector Scheme for the development of Industries and generation of employment in the states of North East Region.

Salient Features of the Scheme

- **Scheme period**: The scheme will be effective from the date of Notification and up to 2034 along with 8 years of committed liabilities.
- **Districts are categorized in two zones**: Zone A (Industrially Advanced Districts) & Zone B (Industrially Backward Districts).
- **Earmarking of funds**: 60% of the outlay of Part A has been earmarked to 8 NE states and 40% on First-In-First-Out (FIFO) basis.

KAZIRANGA NATIONAL PARK

Context

- Prime Minister Modi will visit Kaziranga National Park and Tiger Reserve (KNPTR).

Kaziranga National Park

- **Location**: Golaghat, Karbi Anglong and Nagaon districts of the state of Assam.
- It was declared a Wildlife Sanctuary in 1950 and notified as Kaziranga National Park in 1974 under the Wildlife (Protection) Act, of 1972. It was also recognized as a UNESCO World Heritage Site in 1985.
- The Park is the abode of more than **70%** of **One Horned Rhinoceros** in the world.
 - ♦ **The One-horned Rhino** is listed under the **Schedule I** of the Wildlife Protection Act, 1972 and **vulnerable** in the IUCN Red List.

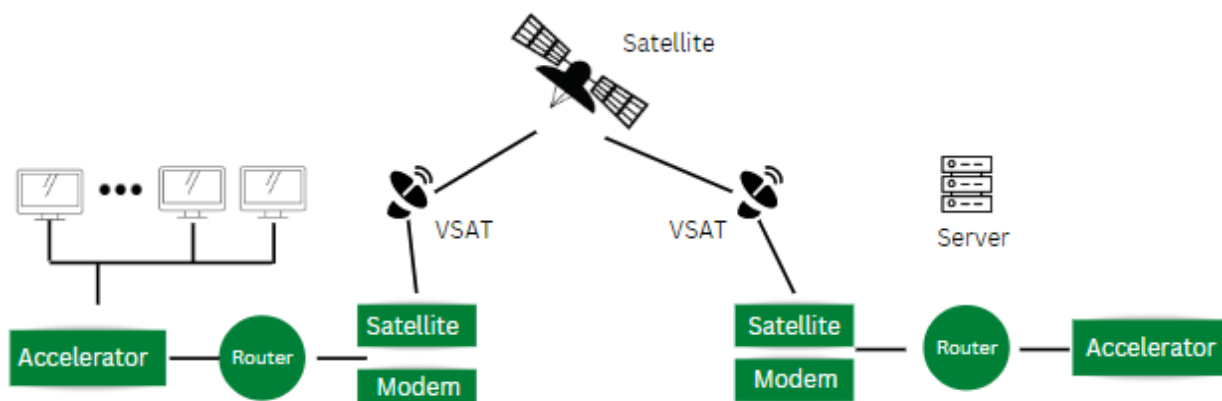
V-SAT STATION IN TRIBAL VILLAGES OF INDIA

Context:

- Recently, the **Ministry of Tribal Affairs** planned to collaborate with ISRO to deploy **V-SAT stations on a pilot basis** for around 80 tribal villages in Jharkhand, Madhya Pradesh, Odisha, and Maharashtra to bring Internet services.

About the Very Small Aperture Terminal (V-SAT) Station:

- It is a **two-way satellite ground station** with a dish antenna that is used **to transmit narrowband data or broadband data** for the provision of satellite Internet access to remote locations.
- It can be used in place of a large physical network as **it bounces the signal from satellites** instead of being transported through physical means like an ethernet connection.



Significance:

- It aims to bring connectivity to geographically remote villages with difficult terrain, and have the potential to significantly address **connectivity challenges in remote areas**.
 - ♦ It is a significant step towards achieving **digital inclusivity**.
- It can provide services such as **Internet, medical, and educational connectivity**, and to help with **e-governance** in these remote areas.

Concerns:

- Because the **signal needs to bounce**, there can be a **latency issue** that wouldn't exist with a physical network.
 - ♦ It takes time for information to reach the dish and the station due to one part of the system being way up in geosynchronous orbit above the earth.
- The signal quality can be **affected by the weather** and other environmental conditions.

PENICILLIN G**Context:**

- Recently, the Union Health Minister announced to restart Penicillin G manufacturing in India, which was stopped in the 90s.

About Penicillin G (Benzylpenicillin):

- It is an **Active Pharmaceutical Ingredient (API)** used in several common **antibiotics** such as *pneumonia, meningitis, gonorrhoea, syphilis, etc.*
- It is a **narrow spectrum antibiotic** used for treatment of several serious **bacterial infections**.
- It is a **natural penicillin antibiotic** that is administered **intravenously or intramuscularly** due to poor oral absorption.
 - ♦ However, the production of Penicillin G in India was **halted in the 1990s** due to the influx of cheaper alternatives from China that Indian manufacturers could not compete with.

The Revival of Penicillin G:

- After a 30-year break, **India's Production Linked Incentive (PLI) Scheme**, which was launched to promote domestic manufacturing, gave incentives to companies on incremental sales.
- It is a significant step towards **self-reliance** in the pharmaceutical sector.

HAIPER**Context:**

- Recently, **Haiper** — a company founded by former members of Google DeepMind, TikTok,

and top labs from research academia, introduced a new **text-to-video model**.

About:

- The announcement came just weeks after the launch of **OpenAI's AI model Sora**, which is capable of **generating one-minute high-definition videos from text prompts**.

Haiper's model

- According to Haiper, its model is a **powerful perceptual foundation model-driven AI that has been designed for a "new path towards AGI"** (artificial general intelligence, an AI software with human-like intelligence and the ability to self-learn).
- Haiper is an **all-in-one visual foundation model** that allows everyone, with or without technical training, to generate high-quality video content with ease.
- The founders claim that Haiper brings forward **cutting-edge machine learning** with the belief that creativity should be "fun, surprising, and shareable".
- Haiper offers tools such as **text-to-video, animated static images, video repainting tools, etc.**
 - ♦ Users can go on to the website, log in with their email addresses, and start generating videos for free by typing in text prompts.
- While the **short length (only 2 seconds at present) is a limitation**, the company has said that it is working towards extending the video outputs.
- While **OpenAI's Sora is still not available for the public, Haiper is offering users to try its tool for free** on its website.

INS KOLKATA**Context:**

- **Indian Naval destroyer INS Kolkata** responded to two instances of missile/drone attacks on merchant vessels in the last few days.

INS Kolkata

- INS Kolkata is the lead ship of the **Kolkata-class stealth guided-missile destroyers**, a significant addition to the Indian Navy's arsenal.

Origin and Design:

- Kolkata class destroyers are follow-on of the legendary **Project 15 'Delhi' class destroyers** which entered service in the late 1990s.

- Conceived and designed by Indian Navy's Directorate of Naval Design, the ships have been christened after major port cities of India viz. Kolkata, Kochi and Chennai.
 - **Commissioned into service:** in 2014, marking a milestone in indigenous Indian warship construction.
 - The ship has a **Combined Gas and Gas(COGAG) propulsion system**, consisting of four powerful reversible gas turbines and can attain speeds in excess of **30 knots**.
 - The ship's electric power is provided by four gas turbine generators and one diesel alternator, which together produce **4.5 Megawatts of electrical power**, enough to light up a smalltown.
 - The ship has a complement of 30 officers and 300 sailors.
- Features:**
- The ship **measures 164 meters in length and approximately 18 meters in width** and has a full load displacement of **7400 tonnes**.

Gulf of Aden

- The Gulf of Aden is a **deepwater gulf of the Indian Ocean** located between:
 - ♦ Yemen to the north
 - ♦ Somalia to the south
 - ♦ Arabian Peninsula to the west
 - ♦ Socotra Island (Yemen) in Arabian Sea to the east



Strategic Significance:

- Vital shipping lane for global trade, particularly for oil transportation from the Persian Gulf.
- Important for international commerce as it links Asia, Africa, and Europe.
- Home to several major ports, including Aden (Yemen), Djibouti City (Djibouti), and Berbera (Somalia).

RIGHT TO REPAIR PORTAL

Context:

- The Department of Consumer Affairs of India (DoCA) has recently launched the **Right to Repair Portal India** on the occasion of **National Consumer Rights Day 2022**.

About the Right to Repair Portal:

- **Aim:** To provide consumers with access to repair information for their products and reduce e-waste.
- **Vision:** The website provides information about

the **circular economy**, which is the new economic model that focuses on **repairing and reusing products**, as opposed to throwing them away.

- This shift is in line with the government's vision of **creating a circular economy by promoting mindful and deliberate utilisation of products** instead of mindless and wasteful consumption.
- Key objectives:
 - ♦ The Right to Repair Portal India **brings together information from different sectors** including automobiles, consumer durables,

- mobile and electronics, and farming equipment.
- It provides consumers with **access to product manuals and repair videos**, as well as information on the price and warranty of spare parts.
- The portal also **allows consumers to submit feedback and suggestions** on products and services.
- Role:** The website is expected to play a key role in **enabling consumers to make informed decisions** about the purchase and maintenance of their products, and to promote a circular economy model.

NATIONAL ARCHIVES OF INDIA FOUNDATION DAY & SUBHASH ABHINANDAN

Context:

- The **National Archives of India** is celebrating its **134th Foundation Day**. On this occasion, a digital exhibition “**Subhash Abhinandan**”, based on the life of **Subhash Chandra Bose** is being organized.

About:

- Netaji Subhash Chandra Bose's personal records are preserved in the **National Archives of India** and can be accessed on **Netaji Portal** and **Abhilekh-Patal**.
- In these records, **letters written by him, diary of his father Shri Janaki Nath Bose, documents of Azad Hind Fauj** and many government documents related to him are available.

Digital exhibition “Subhash Abhinandan”

- The exhibition comprises **16 sections** covering the period from his birth to the present time.
- The decades of **struggle from 1920 to 1940** are well documented, offering insights into his speeches, his adventurous journey and the struggle of **Azad Hind Fauj**.
- Additionally, the exhibition **addresses the award and deferral of the Bharat Ratna** and the efforts made by the Ministry of Culture to honor Netaji. This exhibition offers a unique experience and is also available in **virtual reality**.

The National Archives of India

- Parent body:** The National Archives of India is an attached **Office under the Ministry of Culture**.
- Established on:** 11 March 1891 at Kolkata (Calcutta) as the **Imperial Record Department**.
- Transfer:** Following the **transfer of the capital from Calcutta to Delhi in 1911**, the present building of the National Archives of India was constructed in **1926** which was designed by **Sir Edwin Lutyens**.
 - The transfer of all records from Calcutta to New Delhi was completed in 1937.
- Role:** The National Archives of India is also the nodal agency for the implementation of the **Public Records Act, 1993 and Public Record Rules, 1997**.
- Repository:** National Archives of India has at present in its repositories a collection of over **34.00 cr. pages of Public Records**, which include files, volumes, maps, bills assented to by the President of India, treaties, rare manuscripts, oriental records, private papers, etc.
 - A major chunk of Oriental records is in **Sanskrit, Persian and Odia**.

SHANKARACHARYA HILL

Context:

- Prime Minister of India recently paid obeisance to **Shankaracharya Hill** during his visit to **Jammu and Kashmir**.

About Shankaracharya Hills:

- The **ancient Shankaracharya Temple**, constructed with **grey stones**, stands on **Shankaracharya Hill**, on the **Zabarwan Range** in Srinagar, **Jammu and Kashmir**.
- Initially known as **Takht-i-Sulaiman**, which means Throne of Solomon, it was later renamed after a saint who preached enlightenment here in **AD 750**.
- The temple, dedicated to **Lord Shiva**, is situated at a height of **1000 feet** and can be reached in 10-15 minutes via stairs.
- This ancient temple holds significance as the place where the **renowned seer Adi Shakaracharya attained enlightenment**.

