

What is Ashwagandha?

Ashwagandha is growing in popularity, both in India and abroad.



- Ashwagandha, also called **Indian ginseng** or **Indian winter cherry**, is an evergreen shrub native to India, northern Africa and the Middle East.

- Scientifically known as **Withania somnifera**, the shrub got its name Ashwagandha because its roots are said to smell like a wet horse ('ashwa' for horse and 'gandha' for smell).

- It belongs to the **Solanaceae, or nightshade, family**—the same family as tomatoes and potatoes.

Benefits:

- It has been in use as a **medicinal plant** for thousands of years, especially in traditional **Ayurvedic medicine**.
- It is often called an **adaptogen**, meaning it **helps the body adapt to stressors** and restore balance.
- Its other benefits are **reducing inflammation, increasing energy, alleviating anxiety, ease pain, and improving sleep**.

Different parts of the ashwagandha plant, such as the root, leaves, and berries, may **have different concentrations of bioactive compounds**.

- **Notable among these are withanolides**, naturally occurring steroid compounds which have been associated with beneficial **antioxidant and anti-inflammatory effects** on the body.
-

WHAT IS A HEATWAVE?

Recently, India Meteorological Department (IMD) has predicted an increase in the maximum temperature and the frequency of heatwave conditions in the forthcoming days over eastern and southern India.



- The definition of a heatwave depends on the **physiography of regions**.
- **Qualitatively**, heat wave is a condition of air temperature which becomes fatal to human body when exposed.
- **Quantitatively**, it is defined based on the temperature thresholds over a region in terms of actual temperature or its departure from normal.
- The IMD will declare a heatwave:
 - if the **maximum temperature** recorded at a **station is 40 degrees** Celsius or more in the plains, 37 degrees Celsius or more in the **coast**, and 30 degrees Celsius or more **in the hills**.
 - a heatwave's severity is determined by its departure from normal temperature.
 - there is a '**normal heatwave**' when the departure is by 4.5-6.4 degrees Celsius and a 'severe heatwave' if the departure is greater.

Heat wave declaration could also be based on **actual maximum temperature**:

- A 'heatwave' is when this figure is greater than 45 degrees Celsius and a '**severe heatwave**' when greater than 47 degrees Celsius.
- The IMD takes these two 'routes' only when at **least two stations** in a meteorological subdivision report such a high maximum or when at least one station has recorded a corresponding departure from the normal for at least two consecutive days.
- Governments at various levels — **State, district, and city** — have prepared Heat Action Plans (HAPs).
- HAPs aim to increase preparedness and lower the **adverse impacts of extreme heat** by outlining strategies and measures to prepare for, address and recover from heatwaves.

- The National Disaster Management Authority and IMD are reported to be working with 23 States to develop HAPs.
- There is **no centralised database** on HAPs, but at least 23 HAPs exist at the State and city level, with a few States, such as Odisha and Maharashtra, laying out district-level HAPs.

KEY FACTS ABOUT IRON AGE

A team of archaeologists claimed to have discovered a unique Iron Age megalithic site at Ooragutta near Bandala village in SS Tadvai mandal of Mulugu district, Telangana.



- The Iron Age was a period in human history that **started between 1200 B.C. and 600 B.C.**, depending on the region, and **followed the Stone Age and Bronze Age.**
- The Iron Age **existed in Africa, Europe, and Asia** during prehistoric times **in the Old World.** The Iron Age **did not occur in America** because this was the New World and had not yet been discovered.
- People **discovered iron** at this time. It quickly **became the preferred choice of metal**, replacing the use of bronze **in metalworking.** The use of iron brought important changes to people's lives.
- Ironwork **first began in Turkey** before spreading to other European countries.
- People **used iron to make strong tools**, which **made farming easier.**
 - **Farmers used an 'ard' (an iron plow)** during the Iron Age to turn over their fields. These were much **more efficient** than wooden or bronze plows.
- They also **made iron swords and other weapons.**
 - **Huge armies of soldiers** soon **carried iron weapons.**
 - These weapons **made an army much harder to defeat.**
 - Armies traveled to other lands and **took over places they liked.**
 - Kings and other **rulers gained great power.**

Other changes in technology also happened during the Iron Age.

- People built **large forts and bridges**.
- **Pottery and weaving improved**.
- Humans **dug deep mines** in the ground to find salt and other valuable minerals.
- **End of Iron Age:**
 - The Iron Age is a **part of prehistory**, or the time **before humans used writing**.
 - Therefore, the Iron Age **ended once writing became widespread**.
 - Still, iron continues to be a popular choice for crafting iron tools, weapons, doors, windows, building supports, machinery, and more.

NATIONAL CONSUMER DISPUTES REDRESSAL COMMISSION (NCDRC)

The Supreme Court (SC) recently issued notice to two members of the NCDRC seeking explanation from them for issuing non-bailable warrants against the directors of a company, ignoring a previous interim order of the SC.



National Consumer Disputes Redressal Commission (NCDRC) is a quasi-judicial commission in India which was set up in 1988 under the Consumer Protection Act of 1986.

- **Mandate:** To provide inexpensive, speedy and summary **redressal of consumer disputes**.
- Its **head office** is in **New Delhi**.
- The Commission is **headed by a sitting or a retired Judge of the SC** or a **sitting or a retired Chief Justice of a High Court**.
- NCDRC shall **have jurisdiction** to entertain a **complaint valued more than two crore** and also have **appellate and revisional jurisdiction** from the orders of **State Commissions** or the District fora as the case may be.
- The provisions of this act **cover ‘goods’ as well as ‘services’**.
 - The goods are those which are manufactured or produced and sold to consumers through wholesalers and retailers.

- The services are in the nature of transport, telephone, electricity, housing, banking, insurance, medical treatment, etc.
 - **Eligibility to File a Claim: Any person who**
 - **Has bought goods** for consideration and **finds any defect in the quality, quantity, potency, purity,** or standard of the goods, or
 - **Has hired** or availed **any service** for consideration and **finds any fault, imperfection, shortcoming,** or inadequacy in the quality, nature, and manner of performance in relation to the service.
 - However, **if a person has bought the goods for resale or for a commercial purpose, he is not a consumer.**
 - **No complaint** can be filed for alleged deficiency **in any service** that is rendered **free of charge or under a contract of personal service.**
 - **Who Can File a Complaint:** A complaint may be filed by the following:
 - A consumer
 - Any **voluntary consumer association** registered under the Companies Act 1956
 - The **Central Government** or any **State Government**
 - **One or more consumers** where there are numerous consumers.
 - **Appeal:** Any person aggrieved by an order of NCDRC, may prefer an appeal against such an order **to SC within a period of 30 days.**
-

WHAT ARE TACHYONS?

Physicists recently proposed the radical idea that our universe is dominated by tachyons, a hypothetical kind of particle that always moves faster than light.



- Tachyons are **hypothetical subatomic particles** that **move faster than the speed of light.**
- The term "tachyon" was coined by physicist Gerald Feinberg in 1967.
- They are **distinguished from "bradyons,"** particles that **travel at less than the speed of light.**

- While bradyons are familiar and include protons, electrons and neutrons, **tachyons have never been observed.**
 - According to special relativity, particles with mass cannot reach or exceed the speed of light in a vacuum because their energy would become infinite.
 - However, tachyons are thought to **have imaginary mass**, meaning **their mass squared is a negative value.** This implies that they could potentially travel faster than light without violating the laws of physics as we currently understand them.
 - Tachyons would **slow down if they gained energy** and accelerate if they lost energy.
 - There have been a few experiments to find tachyons using a detector called a **cerenkov detector.**
 - This detector is able to **measure the speed of a particle** traveling through a medium.
 - Nothing can travel faster than the speed of light in a vacuum. However, **in other mediums, particles can potentially move faster than light.**
 - **If a particle travels** through a medium at a speed that is **greater than light** for that medium, **cerenkov radiation occurs.**
 - This is analogous to the sonic boom produced when an airplane travels faster than the speed of sound in air or the shock wave at the bow of a ship.
-

WHO IS WANGCHUK AND WHY IS HE PROTESTING?

Who is Sonam Wangchuk?

He is an **Indian engineer, innovator, environmentalist and education reformist** from Ladakh. He was instrumental in the launch of **Operation New Hope** in 1994 to bring reforms in the government school system. He invented the **Ice Stupa** technique, used for storing winter water in the form of a cone-shaped ice heap. He has been the recipient of the **Ramon Magsaysay Award in 2018.**

What is the Pashmina March that Wangchuk Wants to Hold?

The Pashmina March is **intended to spotlight the loss of grazing pastures** for shepherds (who have traditionally reared the famed Pashmina goats known for its expensive and highly sought-after wool) in the Leh region. According to Wangchuk, there are two main reasons for the loss - **the loss of land to corporations and the activities of the Chinese along the LAC.**

Why is Sonam Wangchuk Protesting?

He is **demanding the inclusion of Ladakh in the Sixth Schedule** of the Constitution (an election promise that the BJP made in 2019). According to Wangchuk, this will **protect the fragile environment and culture of the UT of Ladakh.**

What are the Other Reasons for the Ladakhis' Protests?

After the constitutional changes of August 2019, Ladakhis began to feel the **loss of significant powers** of the autonomous hill development councils, and the **shortage of jobs** after being declined from the J&K recruitment boards. Ladakhis sought protections for their land, jobs, and culture, and sought to elect their own representatives as a full state.

How the Central Govt Responded to these Protests?

A **High-Powered Committee (HPC)** was constituted by the Ministry of Home Affairs. The HPC was supposed to discuss measures to protect Ladakh's unique culture and language, considering its geographical location and strategic importance. Its mandate also included **ensuring the protection of land and employment** for the people of Ladakh.

[GREEN CREDIT PROGRAMME \(GCP\)](#)

Why in News?

- Amid concerns that the GCP may encourage tree planting for financial gains, the Union Environment Ministry (MoEFCC) has issued guidelines that States must rely on to calculate what it would cost to restore a degraded forest landscape.

What is the Green Credit Programme (GCP)?

- Green Credit Initiative was launched by the Indian PM on the side-lines of **COP 28** (held in 2023 at Expo City, Dubai, United Arab Emirates).
- It is an initiative within the government's **Lifestyle for Environment (LiFE) movement**.
 - The concept of LiFE was introduced by the Indian PM at COP26 (Glasgow) in 2021, to drive an international mass movement towards “**mindful and deliberate utilisation**” to protect and preserve the environment.
- **The GCP introduces a market-based approach** to incentivise 8 identified environmental activities.
- The main objective was to establish a mechanism where **participants could earn incentives in the form of ‘Green Credits’**.
- The proposed GCP will be implemented in phases, with the **initial phase** focusing on **water management and afforestation**.
- **Subsequent phases** will cover activities such as
 - Sustainable agriculture,
 - Waste management,
 - Air pollution reduction,
 - Mangrove conservation and restoration,
 - Eco mark label development, and
 - Sustainable building and infrastructure.

What are the Green Credit Rules, 2023?

- These rules were notified on 12th October 2023 under the **Environment Protection Act 1986**.
- These rules **put in place a mechanism to encourage voluntary environmental positive actions** resulting in issuance of green credits.
- **In its initial phase**, voluntary tree plantation is envisaged on degraded land, waste land, watershed area, etc., under the control and management of Forest departments.

Implementation of the GCP:

- So far, forest departments of 13 States have offered 387 land parcels of degraded forest land - worth nearly 10,983 hectares.
 - **Individuals and companies can apply** to the Indian Council of Forestry Research and Education (ICFRE) - an autonomous body of the MoEFCC, **to pay to restore these forests.**
 - **The actual afforestation will be carried out by State Forest departments.**
 - Two years after planting and following an evaluation by the ICFRE, each such planted tree could be worth **one ‘green credit.’**
 - These credits can be claimed by the financing organisation and **used in two ways:**
 - **Either using it to comply with existing forest laws** that require organisations, which divert forest land for non-forestry purposes, to recompense by providing an equivalent amount of land elsewhere.
 - Or be used **for reporting** under environmental, social and governance leadership norms or to meet corporate social responsibility requirements.
-