

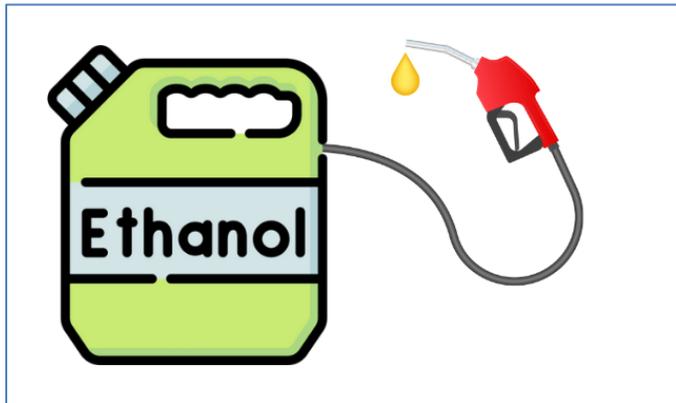
1. Ten Percentage Ethanol Blending in Petrol

Topic: Environment and Ecology

In News: India has achieved the target of blending 10 per cent ethanol in petrol five months ahead of schedule.

More on the Topic:

- It has resulted in less carbon emissions, more savings for the country and better income for farmers.
- Ethanol is a fuel made from various plant materials **collectively referred to as 'biomass'**.
- The biofuel is procured from **the fermentation and distillation of sugarcane and damaged food grains** such as rice.
- The raw materials for the production of ethanol can vary from country to country. While the US produces ethanol using corn, Brazil makes use of sugarcane.
- Regardless of whether ethanol is produced from sugar or starch-based feed, the end product has the same chemical formula.
- Ethanol is a colourless liquid with a higher octane number than gasoline, allowing it to **increase the petrol octane number when blended**.
- **Ethanol is also considered a renewable energy source**, given its raw materials and process for making it.
- Significance of Ethanol Blending:
- Blending ethanol with petrol will not only reduce the fuel import bill for India but also **contribute to greater self-reliance** as the nation expands its own ethanol production capabilities.
- Ethanol usage results in as much as **40 per cent reduced carbon emissions** as compared to the extraction and use of fossil fuels like diesel, gasoline and petrol.
- Ethanol production also results in **employment creation as well as more income towards farmers**.



Disadvantages of Ethanol Blended Fuel:

- A vehicle running on pure ethanol will have a fuel economy that is 30 to 35 per cent less than that of a vehicle using pure petrol.
- One of the primary problems is that ethanol is less energy-efficient as compared to something like petrol.
- This can, naturally, lead to increased costs for consumers who will have to fill up their tanks more often when using ethanol blends.

India's Ethanol Blending Challenges and Way Ahead:

- There is dependence on sugarcane for Ethanol production. Sugarcane is limited resource that affects the ethanol blending in the country.
- Alternative feedstock like agricultural waste, recycled cooking oil, provides for more environmentally friendly bio-fuels.
- There is a need for incentivising both public and private players to set up second-generation ethanol facilities.

Source: Indian Express

2. State of Environment Report 2022

Topic: Environment and Ecology

In News: The State of Environment Report 2022 was released by the environmental NGO, the Centre for Science and Environment (CSE).

More on the Topic:

- The report is an annual compendium of environment-development data and is derived from public sources.
- Important findings of the report are as the following,

River Water Pollution:

- **Three out of every four river monitoring stations in India posted alarming levels of heavy toxic metals** such as lead, iron, nickel, cadmium, arsenic, chromium and copper.
- In about a fourth of the monitoring stations, which are spread across 117 rivers and tributaries, high levels of two or more toxic metals were reported.
- Of the 33 monitoring stations in Ganga, 10 had high levels of contaminants. The river, which is the focus of the Centre's Namami Gange mission, has high levels of lead, iron, nickel, cadmium and arsenic.
- Of the 588 water quality stations monitored for pollution, **total coliform and biochemical oxygen demand were high** in 239 and 88 stations across 21 States - **an indicator of poor wastewater treatment** from industry, agriculture and domestic households.
- **India dumps 72% of its sewage waste without treatment.** Ten States do not treat their sewage at all.

Coastline erosion:

- **Over a third of India's coastline** that is spread across 6,907 km saw some degree of erosion between 1990 and 2018.
- **West Bengal is the worst hit** with over 60% of its shoreline under erosion.



- The reasons for coastal erosion **include increase in frequency of cyclones and sea level rise and anthropogenic activities** such as construction of harbours, beach mining and building of dams.

Ocean Health Index:

- While the global average of the **Ocean Health Index**, a measure that looks at how sustainably humans are exploiting ocean resources, **has improved between 2012 and 2021**, India's score in the index has declined over the same period, the CSE report underlines.

Forest Cover:

- India's **total forest cover has registered a little over a 0.5% increase** between 2017 and 2021 though most of the increase has taken place in the open forest category.
- At the same time, **very dense forests, which absorb maximum carbon dioxide from the atmosphere, occupy just 3% of total forest cover.**
- **A size bigger than Uttar Pradesh forest cover remains unaccounted** in the government forest data.

Source: Indian Express

3. Phase Out Single Use Plastics

Topic: Environment and Ecology

<p>BAGFUL OF TROUBLE</p> <p>Three meetings held recently, including one with Delhi chief secretary on Tuesday. An Information Education and Communication (IEC) plan to eliminate single-use plastic has been finalised, with awareness drives starting this week</p> <p>An action plan will be ready by August 16</p>			<p>IEC plan focus</p> <p>Awareness themes of waste segregation, thickness of plastic bags, why plastic items are harmful, discouraging the use of single-use plastic in packaging, plastic burning and how to reuse plastic</p> <p>Agencies working to spread awareness</p> <p>Environment dept, urban local bodies, education department, Delhi Pollution Control Committee</p>
<p>FROM SEPT 30, 2021 Plastic bags to be 120 microns in thickness, as opposed to existing 50 microns</p>	<p>FROM JAN 1, 2022 Sale and manufacturing of earbuds, plastic sticks, balloons, plastic flags, candy sticks and polystyrene (thermocool) to be prohibited)</p>		<p>FROM JULY 1, 2022 13 items, including plates, cups, glasses and cutlery, to be phased out</p>

In News: The Centre has written to States to phase out Single-Use Plastics (SUP).

More on the Topic:

- The Government has **banned the manufacture, import, stocking, distribution, sale and use of carry bags made of virgin or recycled plastic less than seventy-five microns** with



effect from September 30, 2021 as per **Plastic Waste Management (PWM) (Amended) Rules, 2021.**

- The ULBs will **need to identify SUP alternatives** (such as cloth/jute/plastic bags, degradable cutleries, etc.) readily available in the market and create awareness about such alternatives among citizens.
- Further, States and ULBs have also been advised to enter into MoUs with nearby cement plants or other industrial units as well **to ensure that a part of the plastic waste generated is used either as an alternative fuel** in cement plants or for road construction purposes.
- The advisory also stresses **people participation** to carry forward the message of SUP ban and enforcement.
- Further, the ULBs will **need to identify SUP 'hotspots' and eliminate them**, while parallelly leveraging the support of State Pollution Control Boards and forming special enforcement squads, conducting surprise inspections and imposing heavy fines and penalties on defaulters, for enforcing SUP bans.

The Effects of Single Use Plastics:

- Single Use Plastics **never break down completely.** Instead, they degrade and become micro plastics and continue to pollute the environment.
- Approximately 700 species, even endangered species, have been affected by plastic. **Animals die of starvation or entanglement.**
- Animals with stomachs full of plastic have no urge to eat, and they die of starvation.
- Plastic in the ocean and convert them into the so-called microplastics, which are later eaten through plankton and **becomes part of the food chain of aquatic and human life.**
- When disposable plastics degrade in the environment, **they emit several greenhouse gases.**
- The North Pacific Ocean contains a gyre of marine litter, known as the **Pacific Trash Vortex.** This vortex has **an exceptionally high concentration of single-use plastic** that has been
 - trapped by currents.
 - It has had a devastating effect on the marine ecosystems and has been estimated to be twice the size of Texas.

Source: AIR

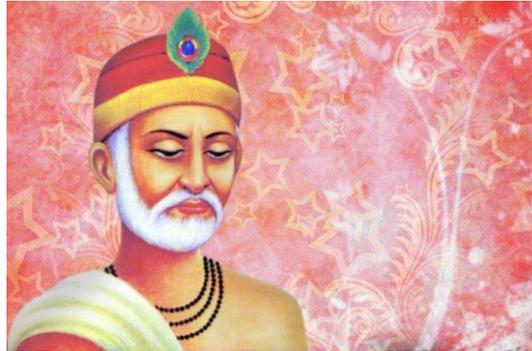
4. Sant Kabir

Topic: Art and Culture

In News: President Ram Nath Kovind has inaugurated the Sant Kabir Academy and Research Centre Swadesh Darshan Yojana.

More on the Topic:

- One school within the Bhakti movement was **the Nirguni tradition and Sant Kabir was a prominent member of it.** In this tradition, God was understood to be a universal and formless being.
- Many of the saints of the Bhakti movement came from the ranks of the lower to middle artisanal classes. **Kabir was a 'low caste' weaver (Julaha)**, Raidas was a leather worker and Dadu a cotton carder.
- **Their radical dissent against orthodoxy and rejection of caste** made these poet-saints extremely popular among the masses and their ideology of egalitarianism spread across India.
- Kabir's compositions can be classified into three literary forms – dohas (short two liners), ramanas (rhymed 4 liners), sung compositions of varying length, known as padas (verses) and sabdas (words).
- **He did not only target the rituals and practices of both Hinduism and Islam, but also dismissed the sacred authority of their religious books, the Vedas and the Quran.**



Source: Indian Express

5. Agni 4 Missile

Topic: Science and Technology

In News: India successfully carried out a night launch of the nuclear-capable Agni-4 ballistic missile.

More on the Topic:

- It has been **developed by India's DRDO** and displayed a number of new technologies and significant improvement in missile technology.
- The missile is **light-weight and has two stages of solid propulsion** and a payload with re-entry heat shield.
- With 3,500 to 4,000 km range, it is capable of striking targets in nearly all of mainland China, if launched from north eastern part of India.
- Agni IV can carry a warhead of 1 tonne. It is designed to increase the kill efficiency along with a higher range performance.
- It can be **fired from a road mobile launcher**. Efforts are being made to fine-tune the Agni missiles to defeat anti-ballistic missile systems.



Source: Business Standard

6. 'Lifestyle for the Environment - LiFE Movement'

Topic: Environment and Ecology

In News: On World Environment Day, Indian Prime Minister Narendra Modi launched a global initiative 'Lifestyle for the Environment - LiFE Movement' via video conference.

More on the Topic:

- **The vision of LiFE is to live a lifestyle that is in tune with our planet** and does not harm it. He added that those who live such a lifestyle are called **"Pro-Planet People"**.
- The idea of LiFE was introduced by Indian Prime Minister **during the 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow** last year.
- The idea **promotes an environmentally conscious lifestyle** that focuses on **'mindful and deliberate utilisation'** instead of **'mindless and wasteful consumption'**.





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- The LiFE Movement **aims to utilise the power of collective action** and nudge individuals across the world to undertake simple climate-friendly actions in their daily lives.
- The LiFE movement, additionally, also seeks **to leverage the strength of social networks** to influence social norms surrounding climate.

Source: Hindu

No 18, B.B.M.P Building
Kanakapura road ,
Tata Silk Farm, Jayanagar,
Bengaluru, Karnataka-560028

+91 89710 43904

rvta@rvei.edu.in

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