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## Digital Water Distribution System | Rajasthan | 01 May 2024

### Why in News?

A unique [digital water distribution system](#) for **agricultural fields** has been launched in Rajasthan's **Sriganganagar district** to facilitate the **supply of irrigation water**.

### Key Points

- The new system, evolved by the **National Informatics Centre (NIC)**, Jaipur, will enable the farmers to know of the **status of water** reaching their fields and **minimise the scope for human error** often reported in the manual system.
  - The digital platform would **enhance transparency** in distributing water from Gang Canal and Indira Gandhi Canal to all farmers in the district, **resolving issues related to water availability**.
- According to the **Water Resources Department**, the heads of water user associations would enter the information about farmers in their respective areas on the portal only once. After this, the farmers will automatically get their irrigation turn slips online.
  - The **online 'barabandi' (fixed turn)** could be expanded and implemented as an equitable water distribution system for the benefit of farmers in other districts of the State as well.

### National Informatics Centre (NIC)

- NIC provides **network backbone and e-Governance** support to the Central Government, State Governments and UT Administrations.
  - NIC has been closely associated with the Government in different aspects of Governance besides establishing a **Nationwide State-of-the-Art information and communication technology (ICT) Infrastructure**.
  - It has also built a large number of digital solutions to support the government at various levels, making the **last-mile delivery of government services to the citizens a reality**.
  - It is under the aegis of the **Ministry of Electronics and Information Technology**.
  - It was **established in 1976** and its **headquarters is located in New Delhi**.
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## Chardham Yatra 2024 | Uttarakhand | 01 May 2024

### Why in News?

**Yamunotri Temple**, opening on **10th May** and closing on **31st Oct, 2024** welcomes pilgrims seeking blessings at the source of the [Yamuna River](#).

## Key Points

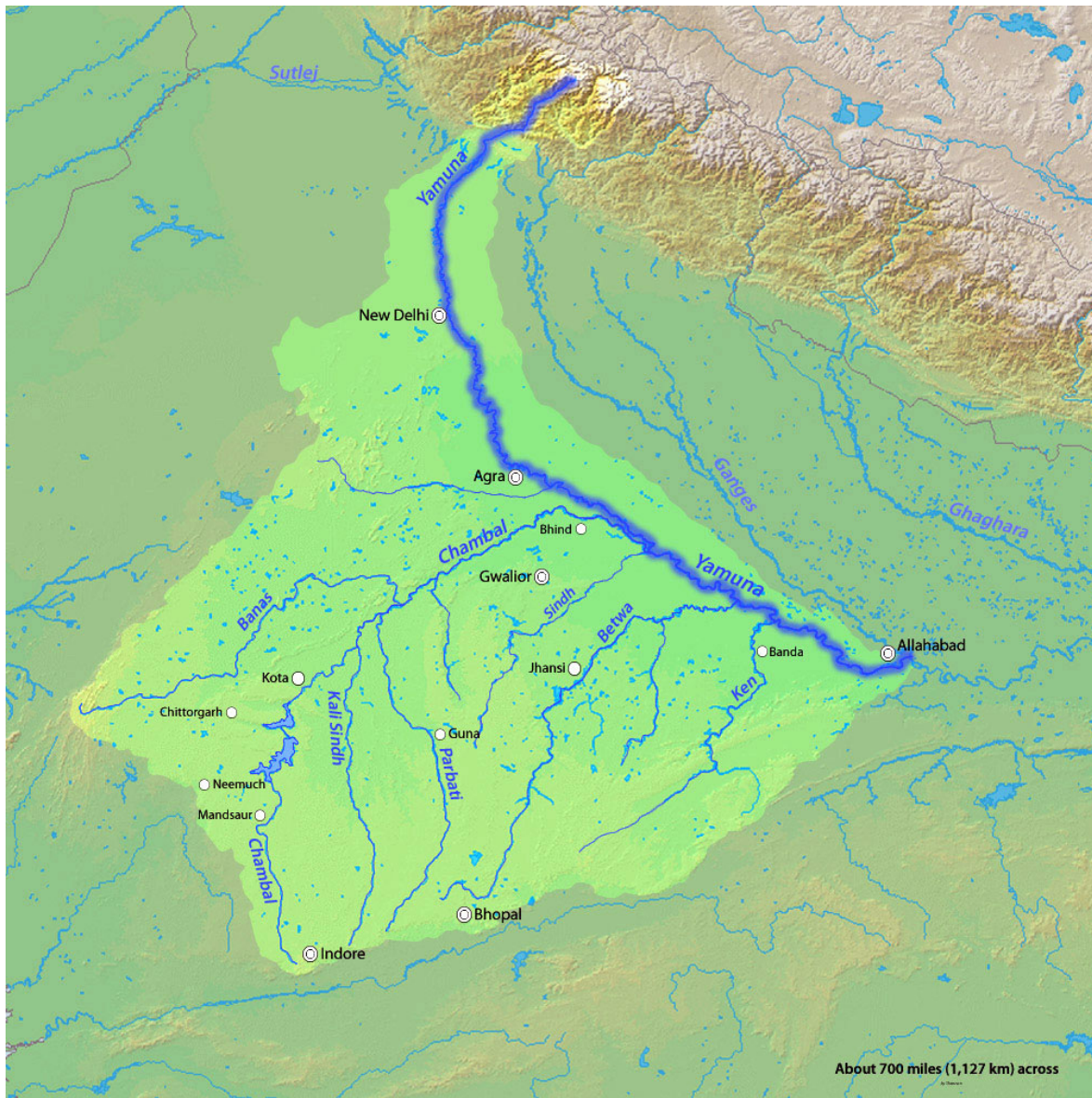
- Yamunotri temple is the first stop of the sacred **Char Dham** Yatra. It is situated in the Garhwal Himalayas in the Uttarkashi district of Uttarakhand.
  - Every year, thousands of Hindus go on a **spiritual odyssey** to seek blessings at this shrine.
- In 2024, this auspicious date is chosen based on the **Hindu Panchang**, coinciding with **Akshay Tritiya**, a day of immense significance.

## Yamuna River

- **About:**
  - The Yamuna River is one of the major tributaries of the Ganges in Northern India.
  - It forms an integral part of the **Yamuna-Ganga Plain**, one of the world's most extensive alluvial plains.
- **Source:** It has its source in the **Yamunotri Glacier at an elevation of 6,387 meters** on the southwestern sides of Banderpooch crests in the lower Himalayan ranges.
- **Basin:** It meets the **Ganges at the Sangam (where Kumbh mela is held)** in Prayagraj, Uttar Pradesh after flowing through Uttarakhand, Himachal Pradesh, Haryana and Delhi.
- **Important Dam:** Lakhwar-Vyasi Dam (Uttarakhand), Tajewala Barrage Dam (Haryana) etc.
- **Important Tributaries:** Chambal, Sindh, Betwa and Ken.
- **Government Initiatives Related to Yamuna River:**
  - Yamuna Action Plan
  - Delhi Government's Six-Point Action Plan to Clean Yamuna by February 2025

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## Leopard Strayed from Pilibhit Tiger Reserve | Uttar Pradesh | 01 May 2024

### Why in News?

Recently, Forest officials captured a [leopard](#) which had strayed into Aliganj village from the nearby [Pilibhit Tiger Reserve](#) in Pilibhit district of Uttar Pradesh.

### Key Points

- The **Pilibhit Tiger reserve** is spread over the three districts of Pilibhit, Lakhimpur Kheri and Bahraich in Uttar Pradesh.
  - It covers an area of more than 700 square km and is home to a variety of wild animals



- including leopards and [tigers](#).
- It forms part of **Terai Arc Landscape** in the **upper Gangetic Plain**.
  - The **northern edge of the reserve lies along the [Indo-Nepal border](#)** while the **southern boundary is marked by the river Sharada and Khakra**.

## Leopards

- **Scientific Name:** *Panthera pardus*
- **About:**
  - The leopard is the smallest of the Big Cat family (of **genus Panthera** namely the **Tiger, Lion (*Panthera leo*), Jaguar, Leopard, and Snow Leopard**), and is known for its ability to adapt in a variety of habitats.
  - A **nocturnal animal**, feeds on smaller species of herbivores found in its range, such as the chital, hog deer and wild boar.
  - Melanism is a common occurrence in leopards, wherein the entire skin of the animal is black in colour, including its spots.
  - A melanistic leopard is often called a **black panther** and is mistakenly thought to be a different species.
- **Habitat:**
  - It occurs in a wide range in **sub-Saharan Africa**, in small parts of Western and Central Asia, on the Indian subcontinent to Southeast and East Asia.
  - The **Indian leopard (*Panthera pardus fusca*)** is a leopard widely distributed on the Indian subcontinent.
- **Threats:**
  - Poaching for the illegal trade of skins and body parts.
  - Habitat loss and fragmentation
  - Human-Leopard conflict
- **Conservation Status:**
  - [IUCN Red List](#): Vulnerable
  - [CITES](#): Appendix-I
  - [Indian Wildlife \(Protection\) Act, 1972](#): Schedule-I

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## Cyber Police Stations in Uttar Pradesh | Uttar Pradesh | 01 May 2024

### Why in News?

The Uttar Pradesh government is to establish **cyber police stations in 57 districts** after the **parliamentary polls** with each cyber police station having 25 posts for officers and employees.

### Key Points

- The state government, in response to the rising incidents of [cybercrime](#) nationally and globally, has decided to establish cyber police stations across all 75 districts of the state.
  - While cyber stations are already operational in 18 divisions, the remaining 57 districts will also get such stations following the Lok Sabha elections.
- The finalisation of these stations will occur following the lifting of the [Model Code of Conduct \(MCC\)](#) and the conclusion of the general elections.

### Model Code of Conduct (MCC)

- The MCC is a **consensus document**. The political parties have themselves agreed to keep their conduct during elections in check and to work within the Code.
- It helps the [Election Commission \(EC\)](#) in keeping with the mandate it has been given under Article 324 of the Constitution, which gives it the **power to supervise** and conduct free and fair elections to the Parliament and State Legislatures.
- The MCC is operational from the date on **which the election schedule is announced until the date of the result announcement**.
- The government **cannot announce any financial grants**, promise construction of roads or other facilities, and make any ad hoc appointments in government or public undertaking during the time the Code is in force.
- **Enforceability of MCC:**
  - Though the **MCC does not have any statutory backing**, it has come to acquire strength in the past decade because of its strict enforcement by the EC.
  - Certain provisions of the MCC may be enforced by invoking corresponding provisions in other statutes such as the [Indian Penal Code \(IPC\) 1860](#), [Code of Criminal Procedure \(CrPC\) 1973](#), and [Representation of Peoples's Act \(RPA\) 1951](#).

## Cybercrime

- It is defined as a crime where a **computer is the object of the crime or is used as a tool** to commit an offense.
  - Cybercrimes fall under State subjects as per the **Seventh Schedule of the Constitution of India**.
- It involves illegal or unauthorized activities that **exploit technology to commit various forms of crimes**.
- Cybercrime covers a wide range of offenses and can affect individuals, organizations, and even governments.

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## IMS-BHU gets Ultrasound, Echocardiogram Machines | Uttar Pradesh | 01 May 2024

### Why in News?

The department of Geriatric Medicine at the Institute of Medical Sciences, **Banaras Hindu University**, officially unveiled **two new portable ultrasound and echocardiogram machines**.

### Key Points

- The department offers complimentary in-house bedside **electrocardiogram and spirometry services**, along with body composition analyzer and hand grip dynamometer for frailty assessment, all provided at no cost.
- IMS BHU gave a presentation on the range of **Ankylosing Spondylitis** impacting the bone.
  - The event was arranged by [AIIMS, Jammu](#) as part of the **Asia Pacific Orthopaedic Association Young Surgeons Forum**.

### Ankylosing Spondylitis (AS)

- It is a **type of arthritis** that mainly **affects the back, by causing inflammation in the spine**. This can make your back, rib cage and neck stiff and painful.

- It often starts in people who are in their late teens or 20s.
- In response to the inflammation, **the body produces extra calcium around the bones of the spine**. This can make extra bits of bone grow and cause your back and neck to be more stiff.

## The Asia Pacific Orthopaedic Association (APOA)

- It is a regional organisation of orthopaedic surgeons from the **Asia Pacific region**.
- It **began in 1962** as the Western Pacific Orthopaedic Association. With the inclusion of countries of the Indian sub-continent in 2000, the association was renamed as the Asia Pacific Orthopaedic Association.
- It has **24 member chapters** and more than 65,000 members from over 40 countries.
- Its **core mission** is to promote the education, research and fellowship amongst orthopaedic surgeons in this region.

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## Government Plans to Turn South Haryana Greener | Haryana | 01 May 2024

### Why in News?

According to the forest department, **Six districts in south Haryana** are prepared to **plant 2.4 million saplings** in the 2024 monsoon season.

### Key Points

- **Faridabad** will lead the initiative by planting **5 lakh saplings**, followed by **Mahendergarh with 4.9 lakh saplings**.
  - **Palwal** and **Gurgaon** will plant **3.7 lakh and 3.4 lakh saplings**, respectively, while **Nuh and Rewari** are planning to plant **3.3 lakh saplings each**.
- The **Gurgaon's urban area** has a **forest cover of less than 1%** despite yearly large-scale plantation efforts. 2024's extensive plantation campaign is focused on boosting the green cover.
  - To ensure the success of the plantation drive, the forest department plans to **involve local communities and raise awareness** about the significance of trees.
  - The planting initiatives will probably be paired with **educational initiatives to raise awareness** about the benefits of preserving and safeguarding the newly established green areas.
- This project aims to improve the air quality of Gurgaon which is one of the most polluted according to **IQAir**, a Swiss company.
  - According to the report by this firm, the **PM 2.5 concentration** in the city rose by 11% in 2021 compared to 2020.
- The **Forest Survey of India (FSI)** indicates a **decline of 2.47sq km of forest cover between 2019 and 2020**.
  - However, simply planting a large number of trees without ensuring their survival is not an effective solution. The survival rate of saplings in the region stands at only 10 to 20%, underlining the insufficiency of mass plantation drives.
  - Environmentalists stress the need for plantation drive audits and the revival of native species to enhance biodiversity in the area.

### Forest Survey of India (FSI)

- FSI was **founded in June 1981** and **headquartered at Dehradun** in Uttarakhand.

- It is under the **Ministry of Environment, Forest and Climate Change.**
- This organisation conducts **forest surveys, studies and researches** to periodically monitor the changing situations of land and forest resources.
- It presents the data for **national planning, conservation and sustainable management of environmental protection** as well as for the implementation of social forestry projects.





# Air Pollutants

## Sulphur Dioxide (SO<sub>2</sub>)



It comes from the consumption of fossil fuels (oil, coal and natural gas). Reacts with water to form acid rain.

**Impact:** Causes respiratory problems.

## Ozone (O<sub>3</sub>)



Secondary pollutant formed from other pollutants (NO<sub>x</sub> and VOC) under the action of the sun.

**Impact:** Irritation of the eye and respiratory mucous membranes, asthma attacks.

## Nitrogen Dioxide (NO<sub>2</sub>)



Emissions from road transport, industry and energy production sectors. Contributes to Ozone and PM formation.

**Impact:** Chronic lung disease.

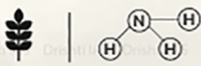
## Carbon Monoxide (CO)



It is a product of the incomplete combustion of carbon-containing compounds.

**Impact:** Fatigue, confusion, and dizziness due to inadequate oxygen delivery to the brain.

## Ammonia (NH<sub>3</sub>)



Produced by the metabolism of amino acids and other compounds which contain nitrogen.

**Impact:** Immediate burning of the eyes, nose, throat and respiratory tract and can result in blindness, lung damage.

## Lead (Pb)



Released as a waste product from extraction of metals such as silver, platinum, and iron from their respective ores.

**Impact:** Anemia, weakness, and kidney and brain damage.

## Particulate Matter (PM)



**PM10:** Inhalable particles, with diameters that are generally 10 micrometers and smaller.

**PM2.5:** Fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller.

**Source:** Emitted from construction sites, unpaved roads, fields, fires.

**Impact:** Irregular heartbeat, aggravated asthma, decreased lung function.

**Note:** These major air pollutants are included in the Air quality index for which short-term National Ambient Air Quality Standards are prescribed.



