INTERNATIONAL DAY OF MATHEMATICS

The International Day of Mathematics (IDM) is celebrated every year on 14 March.

- International Day of Mathematics, **or Pi Day**, is celebrated on **March 14** every year to recognize the mathematical constant, Pi.

- **The theme of** International Day of Mathematics 2024 is **'Playing with Math'.**

- **Why March 14?**
  - The **approximate value of Pi is 3.14. The date**, when written **in the format of month/day** (3/14), **matches the first three digits** of the mathematical constant.

- **History:**
  - The first Pi Day was celebrated in 1988 by physicist Larry Shaw at the San Francisco Exploratorium.
  - In 2009, the United States House of Representatives designated March 14 as Pi Day.
  - **UNESCO marked Pi Day as the 'International Day of Mathematics'** during its general conference **in 2019.**
  - Mathematician and physicist **Albert Einstein**, known for the "General Theory Of Relativity," **was born on Pi Day in 1879.**

What is Pi (π)?

- Pi is a **mathematical constant** that represents the ratio of the circumference of a circle to its diameter.
- It is an infinitely long, irrational number, and its exact value cannot be known.
- Pi is **roughly equal to 3.14, or 22/7.**
- **History**:
  - Pi has been known for nearly 4,000 years and was **discovered by the ancient Babylonians.**

- One of the first calculations of pi was carried out by Greek mathematician Archimedes of Syracuse (287 B.C. to 212 B.C.).
- It also has a **symbol, 'π.'**The symbol π was **devised by British mathematician William Jones in 1706.**

- **Applications**: It is used in a wide variety of mathematical and scientific calculations, including **geometry, trigonometry, calculus,** and more.

WHAT IS 'VOCAL FOR LOCAL' INITIATIVE?

NITI Aayog recently launched the 'Vocal for Local' initiative under its Aspirational Blocks Programme.

'Vocal for Local' is an **initiative of NITI Aayog under** its **Aspirational Blocks Programme** to encourage a spirit of self-reliance among the people and propel them towards sustainable growth and prosperity.

- As a part of this initiative, **local products from 500 aspirational blocks** have been mapped and consolidated under the **Aakanksha brand.**
  - Aakanksha is an umbrella brand, which could be supplemented into multiple sub-brands that have the potential to create an international market.
- In order to encourage these products, a **dedicated window** for the Aspirational Blocks Programme under the brand name Aakanksha has been **established on the Government e-Marketplace (GeM) portal.**
- The **partners will also provide technical and operational support** for the facilitation of e-commerce onboarding, establishing linkages, financial/digital literacy, documentation/certification, and skill enhancement, among others.

Key Facts about Government e-Marketplace (GeM):

- It is an **online platform for public procurement**, launched in 2016 by the Ministry of Commerce and Industry, Government of India.
- It is a one-stop portal to **facilitate online procurement of common use Goods & Services** required by various Government Departments / Organizations / PSUs.

- The **purchases** made through GeM by Government users have been authorised and **made mandatory by the Ministry of Finance** under the General Financial Rules, 2017.

- The platform is **owned by GeM SPV** (Special Purpose Vehicle), which is a 100% Government-owned, non-profit company under the Ministry of Commerce and Industry.

Key Facts about Aspirational Blocks Programme:

- It is **on the lines of the Aspirational District Programme** that was launched in 2018 and covers 112 districts across the country.

- This new programme is aimed at **improving performance of blocks lagging on various development parameters.**

- This will enable holistic development in those areas that require added assistance.

- The programme will initially **cover 500 districts across 31 States and Union Territories**.

- **Over half of these blocks are in six States**: Uttar Pradesh (68 blocks), Bihar (61), Madhya Pradesh (42), Jharkhand (34), Odisha (29), and West Bengal (29).

GLOBAL METHANE TRACKER 2024

According to the International Energy Agency's (IEA) Global Methane Tracker 2024, Methane emissions from fuel use in 2023 were close to being the highest ever.
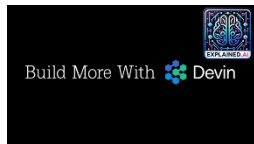

Global Methane Tracker is an **annual report** released by the **International Energy Agency (IEA).**

- It is **based on** the most **recently available data on methane emissions** from the energy sector and incorporates new scientific studies, measurement campaigns, and information collected from satellites.

- **Highlights of Global Methane Tracker 2024:**
  - **Methane emissions from fuel use** in 2023 were close to being the **highest ever at 120 million tonnes** (Mt). This is a small rise compared to 2022.

- o **Bioenergy**, a form of renewable energy generated by plant and animal waste, **caused another 10 million tons** of emissions.
- o Of the 120 Mt of methane that escaped into the atmosphere, around **80 million tons** of methane emissions **came from just 10 countries**, The United States leads in methane emissions from oil and gas operations, and is "closely followed" by Russia. China, on the other hand, leads in emissions from coal operations.
- o While studies suggested emissions are falling in some regions, overall emissions remain far too high to meet the world's climate goals.
- o The world **needs to slash methane emissions from fossil fuels by 75 percent** by **2030 to achieve the Paris Agreement goal** of limiting warming to 1.5°C.
- o The IEA estimated that this goal would require about $170 billion in spending. This is less than 5 percent of the income generated by the fossil fuel industry in 2023.

WHAT IS DEVIN AI?

A US-based company called Cognition has announced the launch of a new artificial intelligence chatbot called Devin which it claims to be world's first fully autonomous AI software engineer.

Devin AI is the world's first **AI software engineer.**

- **What can Devin do?**
  - o The AI agent comes with some advanced capabilities in **software development, including coding, debugging,** problem-solving, etc.
  - o It uses **machine learning algorithms** to constantly learn and improve its performance and adapt according to new challenges.
  - o In simple words, Devin can build and deploy apps end-to-end and can also train and fine-tune its own AI models. It can plan and **execute complex engineering** tasks that would require thousands of decisions.

- o It can recall relevant context at each step, self-learn over time, and even fix mistakes. This software engineer has the ability to proactively collaborate with the user.

- o It **reports progress in real-time**, is capable of accepting feedback, and works along with the user through design choices as needed.

- **Performance**

  - o On the **SWE-Bench benchmark** (a benchmark for evaluating large language models on real-world software issues found on GitHub), Devin correctly resolved 13.86 per cent of the issues without any assistance.

  - o It is capable of **augmenting efficiency and speed** within software development processes by automating repetitive tasks, instantly generating code, expediting project timelines, and cutting down development expenses substantially. It is immune to human errors or inconsistencies.

WHAT IS PB-SHABD PLATFORM?

Union Minister of Information and Broadcasting launched PB-SHABD, a news sharing service from Prasar Bharati.

- **Prasar Bharti - Shared Audio Visuals for Broadcast and Dissemination** (PB-SHABD) platform has been designed to provide **daily news feeds in video, audio, text, photo** and other formats to the subscribers from media landscape.

- It is powered by the vast network of Prasar Bharati reporters, correspondents and stringers, the service would bring you the latest news from different parts of the country.

- It will **be a single point source** of news content for all organizations. SHABD service is **being offered free of cost** for the first year as an introductory offer and will provide news stories in **all major Indian languages across fifty categories.**

- The shared feeds can be used for customized storytelling across different platforms. As an introductory offer, the services would be available free of cost and help the smaller newspapers, TV channels and digital portals immensely.

What is Prasar Bharti?

- It is the Public Service Broadcaster of the country.
- It is a **statutory autonomous** body established in 1997 **under the Prasar Bharati Act.**
- **Objective:** To conduct public broadcasting services intended to inform and entertain the public.
- It comprises the Doordarshan Television Network and All India Radio, which were earlier media units of the Ministry of Information and Broadcasting.
- **Headquarter:** New Delhi

ELECTRIC MOBILITY PROMOTION SCHEME 2024

Recently, the Union Ministry of Heavy Industries announced Electric Mobility Promotion Scheme 2024

About Electric Mobility Promotion Scheme 2024:

- It aims to further accelerate the **adoption of Electric Vehicles** in the country. It is a fund limited scheme with a total outlay **of Rs. 500 crore** for the period **of 4 months**.
- It is for faster adoption of **electric two-wheeler (e-2W) and three-wheeler (e-3W)** to provide further impetus to the green mobility and development of electric vehicle (EV) manufacturing eco-system in the country.
- **Eligible EV categories**
    - Two Wheelers (electric) (e-2W)
    - Three-wheeler (electric) including registered e-rickshaws & e-carts and L5 (e-3W)
- The scheme will be applicable mainly to those e-2W and e-3Ws registered for commercial purposes. Further, in addition to commercial use, privately or corporate owned registered e-2W will also be eligible under the scheme.

- To encourage advance technologies, the benefits of incentives, will be extended to only those vehicles which are fitted with advanced battery.
- **Nodal Ministry:** Ministry of Heavy Industries

ON JUDGES AND BUREAUCRATS JOINING POLITICS

Recently a Calcutta High Court judge and a senior IPS officer in West Bengal resigned from their posts and joined political parties. This has brought up concerns about whether it's right for constitutional authorities and government officials to join political parties after they leave their jobs.

Existing Constitutional restrictions

- **Rationale – principle of checks and balance**
  - The Constitution works on the principle of checks and balance between various organs. The executive is accountable to the legislature.
  - An independent judiciary keeps a check on both these branches of the State.
  - There are also other independent bodies like the Election Commission, Public Service Commission, CAG who are required to perform their constitutional duties without any interference from the government.
  - The independence of these institutions is ensured through guaranteeing fixed tenure, financial independence, stringent removal procedure and restrictions after demitting office.

- **Existing constitutional restrictions**
  - A judge of a Supreme Court after ceasing to hold office cannot appear as a lawyer before any court or authority in India.
  - A judge of a High Court has similar restrictions except for appearance before the Supreme Court or other High Courts.
  - The CAG and the chairman/members of the Public Service Commission cannot take up any other employment with Central or State governments after demitting office.

o These restrictions are laid down to avoid favouritism, during the period of holding such positions, towards the government in power with an intent of securing any post-retirement benefit.

Restrictions on gaining political posts

- **No such restrictions**
  - o There are no restrictions when it comes to joining political parties, contesting elections or being nominated to certain posts.
  - o There are notable instances of persons who held independent constitutional posts and later went on to join politics or were nominated to various posts.

Conclusion

Justice should not only be done but should also be seen to be done. This applies equally to judges, independent constitutional authorities and senior bureaucrats. Extending this principle even after they demit office will have a salutary effect. This may be achieved by prescribing a cooling-off period for joining political parties or being nominated to political posts by the government. This will instil confidence in the public at large and negate any allegation of quid pro quo.

PRADHAN MANTRI SAMAJIK UTTHAN AND ROZGAR ADHARIT JANKALYAN (PM-SURAJ)

Pradhan Mantri Samajik Utthan evam Rozgar Adharit Jankalyan (PM-SURAJ) portal will act as a one-stop point where people from disadvantaged sections of society can apply for and monitor the progress of all loan and credit schemes already available to them.

- o This initiative will help in providing financial assistance directly to beneficiaries, eliminating middlemen and commissions.
- o It aims at uplifting the most marginalised segments of society.
- **Implementing agency:** Ministry of Social Justice and Empowerment and its departments.

NAMASTE (National Action for Mechanised Sanitation Ecosystem) Scheme

- **Objective**
  - To ensure safety and dignity of sanitation workers in urban India as well as providing sustainable livelihood to these workers.

- **Ministries involved**
  - It is a joint initiative of the Ministry of Social Justice & Empowerment (MoSJE) and the Ministry of Housing and Urban Affairs (MoHUA).

- **Implementing agency**
  - National Safai Karamchari Financial Development Corporation (NSKFDC)

- **Coverage**
  - Five hundred cities (converging with AMRUT cities) will be taken up under this phase of NAMASTE. It will be implemented for the period 2022-26.

- **Aims**
  - Zero fatalities in sanitation work in India
  - All sanitation work is performed by skilled workers
  - No sanitation workers come in direct contact with human faecal matter
  - Sanitation workers are collectivized into SHGs and are empowered to run sanitation enterprises
    - All Sewer and Septic tank sanitation workers (SSWs) have access to alternative livelihoods.