

My Notes....

NATIONAL

INDIAN SITES ADDED TO RAMSAR LIST

Four more Indian sites — two each from **Haryana and Gujarat** — have been recognised as **wetlands of international importance** under the **Ramsar Convention**, taking the number of such sites in the country **to 46**, the Union Environment Ministry said 14 August 2021. According to the ministry, **for the first time**, two wetlands in Haryana have been included in the **Ramsar list**.

About Bhindawas Wildlife Sanctuary

1. Haryana's **Bhindawas Wildlife Sanctuary** is a **human-made freshwater wetland**. It is also the largest in Haryana. **Over 250 bird species** use the sanctuary throughout the year as a resting and roosting site.
2. The site supports more than **10 globally threatened species** including the endangered **Egyptian Vulture, Steppe Eagle, Pallas's Fish Eagle, and Black-bellied Tern**.

Flashback

1. The **Ramsar Convention is an international treaty** for the conservation and **wise use of wetlands**.
2. It is named after the **Iranian city of Ramsar**, on the Caspian Sea, where the **treaty was signed** on 2 February 1971.
3. The **46 Ramsar sites in India** include the **Chilika Lake in Odisha, Keoladeo National Park in Rajasthan, Harike Lake in Punjab, Loktak Lake in Manipur and Wular Lake in Jammu and Kashmir**.
4. The aim of the Ramsar list is "**to develop and maintain an international network of wetlands** which are important for the **conservation of global biological diversity** and for sustaining human life through the maintenance of their **ecosystem components, processes and benefits**".

About Sultanpur National Park

1. The **Sultanpur National Park** in the state of Haryana supports **more than 220 species of resident**, winter migratory and local migratory waterbirds at critical stages of their life cycles.
2. **More than 10 of these are globally threatened**, including the critically endangered sociable lapwing, and the endangered **Egyptian Vulture, Saker Falcon, Pallas's Fish Eagle and Black-bellied Tern**.

About Thol Lake Wildlife sanctuary

1. The **Thol Lake Wildlife Sanctuary in Gujarat** lies on the **Central Asian Flyway** and more than 320 bird species can be found here.
2. The wetland **supports more than 30 threatened waterbird species**, such as the critically endangered **White-rumped Vulture and Sociable Lapwing**, and the vulnerable Sarus Crane, Common Pochard and Lesser White-fronted Goose.

About Wadhvana Wetland

1. The **Wadhvana Wetland in Gujarat** is **internationally important for its birdlife** as it provides wintering ground to migratory waterbirds, including **over 80 species** that migrate on the **Central Asian Flyway**.
2. They include some threatened or **near-threatened species** such as the **endangered Pallas's fish-Eagle**, the **vulnerable Common Pochard**, and the **near-threatened Dalmatian Pelican, Grey-headed Fish-eagle and Ferruginous Duck**.

NATIONAL HYDROGEN MISSION

Prime Minister on 15 August 2021 announced the **National Hydrogen Mission** with an aim to make India a **hub for the production and export of green hydrogen**. Addressing the nation on **75th Independence Day**, the Prime Minister took a pledge **to make India energy independent** before completing **100 years of independence**.

What

1. He admitted that **India is not energy independent** and spends **over Rs 12 lakh crores every year** for energy requirements.
2. For the progress of India, it is necessary for **India to be energy independent** to make an **Aatmannirbhar Bharat**.
3. The **National Hydrogen Mission**, in line with the Government's push to meet its climate targets.
4. We have already announced a **target of achieving 450 GW renewable energy by 2030**, and I am happy to say that out of this **we have already achieved 100 GW ahead of time**.
5. The **National Hydrogen Mission** and the **green hydrogen sector** will give us a quantum jump in meeting our climate targets. We have to make India a green hydrogen hub, and this will also lead to a clean energy transition.
6. **Green hydrogen** is produced by **splitting water into hydrogen and oxygen** using an **electrolyser powered by electricity from renewable energy sources** such as wind and solar.

FORTIFIED RICE TO POOR BY 2024

Prime Minister on 15 August 2021 announced that the government will **fortify the rice distributed to the poor via different schemes** such as **Midday Meal** in a bid to address the problem of malnutrition. **Malnutrition** and **lack of micro-nutrients** are affecting the growth of poor children. Looking at this, it has been decided to fortify the rice given to the poor via different government schemes, PM said in his Independence Day speech.

What

1. PM said whether through **ration shops** or the **Midday Meal scheme**, the rice made available under every government programme **will be fortified by the year 2024**.
2. Currently, out of the **15 states identified** for the '**Central scheme on fortified rice** and its distribution via public distribution system (PDS)', **five are implementing it** in one district each on a pilot basis.
3. **Andhra Pradesh, Gujarat, Maharashtra, Tamil Nadu and Chhattisgarh** have started distributing fortified rice -- mixed with nutrients -- in their respective identified district.

Flashback

1. **Fortifying rice** involves **grinding broken rice into powder**, mixing it with nutrients, and **then shaping it into rice-like kernels** using an **extrusion process**.
2. These **fortified kernels** are then mixed with normal rice **in 1:100 ratios**, and distributed for consumption.
3. Currently, there are **only 15,000 tonnes of these kernels available per year** in the country.

UNITED NATIONS' REPORT ON CLIMATE CHANGE

The UN-appointed **Intergovernmental Panel on Climate Change (IPCC)** published a new report 9 August 2021 summarizing the latest authoritative **scientific information about**

global warming. The report says **almost all of the warming** that has occurred **since pre-industrial times** was caused by the release of **heat-trapping gases** such as **carbon dioxide and methane**. Much of that is the result of **humans burning fossil fuels** coal, oil, wood and natural gas.

Important takeaways

1. The Intergovernmental Panel on Climate Change's (IPCC) **Sixth Assessment Report (AR6) 'Climate Change 2021: The Physical Science Basis'** said every region in the world is witnessing irreversible changes in climate due to human influence.
2. The report provides new estimates of the chances of crossing the **global warming level of 1.5 degrees Celsius** in the next decades, and finds that unless there are **immediate, rapid and large-scale reductions** in greenhouse gas emissions, **limiting warming to close to 1.5 degrees Celsius** or even 2 degrees Celsius will be beyond reach.
3. For the **first time**, the **sixth assessment report** provides a more detailed **regional assessment of climate change**, including a focus on useful information that can inform **risk assessment, adaptation, and other decision-making**, and a **new framework that helps translate physical changes in climate** into what they mean for society and ecosystems.
4. Almost all countries have signed up to the **2015 Paris climate accord** that **aims to limit global warming to 2 degrees Celsius** (3.6 Fahrenheit) and ideally **no more than 1.5 degrees Celsius** (2.7 degrees Fahrenheit) **by the year 2100**, compared to the **late 19th century**.
5. The report's 200-plus authors looked at **five scenarios** and concluded that all will see the world cross the **1.5-degree threshold in the 2030s sooner than in previous predictions**.
6. Three of those scenarios will also **see temperatures rise 2 degrees Celsius** above the pre-industrial average.

Flashback

1. Every few years, the **Inter-governmental Panel on Climate Change (IPCC)** produces assessment reports that are the **most comprehensive scientific evaluations** of the state of **earth's climate**.
2. **Set up in 1988** by the **World Meteorological Organisation (WMO)** and the **UN Environment Programme (UNEP)**, the IPCC does not itself engage in scientific research. Instead, it asks scientists from around the world to go through all the **relevant scientific literature related to climate change** and **draw up the logical conclusions**.
3. So far, **five assessment reports** have been produced, the **first one being released in 1990**.
4. The **fifth assessment report had come out in 2014** in the run up to the climate change conference in Paris.
5. On 9 August 2021, the IPCC released the **first part of its sixth assessment report (AR6)**. The two remaining parts would be released next year.
6. The assessment reports are the **most widely-accepted scientific opinion** about **climate change**.

CONTINUATION OF SAMAGRA SHIKSHA SCHEME

The Cabinet on 4 August 2021 approved the **extension** of the centrally sponsored **Samagra Shiksha scheme**, which is an **integrated scheme for school education**, from 1 April 2021 to 31 March 2026 with an estimated outlay of around ₹3 lakh crore. The scheme is to ensure **inclusive and equitable**, quality and holistic school education.

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What

1. The **Samagra Shiksha scheme** is an integrated scheme for school education covering the **entire gamut from pre-school to class XII**.
2. The scheme **treats school education as a continuum** and is in accordance with **Sustainable Development Goal for Education (SDG-4)**.
3. The scheme not only provides support for the **implementation of the RTE Act** but has also been **aligned with the recommendations of National Education Policy (NEP) 2020** to ensure that all children have access to quality education with an **equitable and inclusive classroom environment** which should take care of their **diverse background, multilingual needs**, different academic abilities and make them active participants in the learning process.
4. The expansion of vocational education will be done in **convergence with the Ministry of Skill Development and Entrepreneurship** and other ministries providing funding for skills.
5. The **existing infrastructure of schools and ITIs and polytechnics** will be used to ensure **optimum utilisation of the facilities**, not only for school going children but also for out of school children.
6. **Specific training modules** will be included **under NISHTHA by NCERT** to train Secondary teachers and Pri-primary teachers. **Transport facility** has been extended to secondary level at up to Rs 6000 per annum.

Flashback

1. **Union Budget 2018-19** has announced that **school education would be treated holistically** and **without segmentation from pre-primary to class XII**.
2. It is, in this context, that the Department launched the Integrated Scheme for School Education, **Samagra Shiksha in 2018** by **subsuming** the erstwhile Centrally Sponsored Schemes of **Sarva Shiksha Abhiyan (SSA)**, **Rashtriya Madhyamik Shiksha Abhiyan (RMSA)** and **Teacher Education (TE)**.

5 PRINCIPLES FOR MARITIME SECURITY

Chairing a **high-level United Nations Security Council** open debate, Prime Minister Narendra Modi on 9 August 2021 put forward **five principles**, including **removing barriers for maritime trade** and **peaceful settlement of disputes**, on the basis of which a global roadmap for maritime security cooperation can be prepared. In his statement while chairing the debate on "**Enhancing Maritime Security - A Case for International Cooperation**" via video conferencing, PM highlighted that maritime routes were being **misused for terrorism and piracy**.

What

1. PM stressed that the oceans are the **world's common heritage** and sea routes the lifeline of international trade.
2. We should **remove barriers for legitimate maritime trade**. Global prosperity depends on the active flow of maritime trade. Any hindrance in maritime trade can **threaten the global economy**, PM said elaborating the **first principle**.
3. The **second principle**, PM said, was that the **settlement of maritime disputes** should be peaceful and on the **basis of international law**.
4. The **third key principle** was that the **global community should together face natural disasters** and maritime threats created by non-State actors.

5. **Preserving the maritime environment** and maritime resources, and **encouraging responsible maritime connectivity** were the **fourth and fifth principles** enunciated by the prime minister.

Flashback

1. Modi is the **first Indian prime minister** to preside over a **UN Security Council Open Debate**.
2. The open debate was focussed on ways to **effectively counter maritime crime and insecurity**, and strengthen coordination in the maritime domain.
3. This is the **first time** that **maritime security was discussed in a holistic manner** as an exclusive agenda item in such a high-level open debate.

INDIA IN GLOBAL YOUTH DEVELOPMENT INDEX

India is ranked **122nd** on a **new Global Youth Development Index** measuring the **condition of young people across 181 countries**, released by the **Commonwealth Secretariat** in London on 10 August 2021. The **triennial rankings** of youth development found **India among the top five risers on the index** between 2010 and 2018, alongside Afghanistan and Russia, advancing their score on average by 15.74 per cent across areas such as education and employment.

What

1. The **2020 Global Youth Development Index** reveals that the **conditions of young people have improved** around the world by 3.1 per cent between 2010 and 2018.
2. Overall, the index shows **advances in youth's participation in peace processes** and their education, employment, inclusion and health care since 2010.
3. **Health made the largest gains of 4.39 per cent** driven by a **1.6 per cent decline in global youth mortality rates** and a **2 per cent drop in HIV**, self-harm, alcohol abuse and tobacco use. Sub-Saharan Africa made the greatest strides in improving the health of young people.
4. The **global education score increased by 3 per cent**, with **South Asia making the largest improvement of 16 per cent**.
5. Peace and security improved by 3.41 per cent, resulting from fewer young people dying from direct violence. **Somalia recorded the largest gains in the peace and security** of young people, followed by Colombia, Sri Lanka, Eritrea and Russia.
6. The **top five risers** from 2010 to 2018 were **Afghanistan, India, Russia, Ethiopia and Burkina Faso**, says the **2020 Global Youth Development Index**.

Flashback

1. **Youth Development Index** is a vital tool which has already significantly **enhanced our capacity to assess the extent** to which youth are engaged to contribute beneficially in their societies, and empowered by enabling policies and tools.
2. The index ranks countries between **0.00 (lowest) and 1.00 (highest)** according to the developments in **youth education, employment, health, equality and inclusion, peace and security, and political and civic participation**.
3. It looks at **27 indicators** including **literacy and voting** to showcase the state of the **world's 1.8 billion people between the age of 15 and 29**.
4. The index, which draws on **multiple data sources**, was to be released at the now-postponed **Commonwealth Heads of Government Meeting (CHOGM)** in 2020. However, with CHOGM being postponed again until 2022, it was decided to release the index this year.

7. **Singapore ranked topmost** followed by Slovenia, Norway, Malta and Denmark. Chad, the Central African Republic, South Sudan, Afghanistan and **Niger came last** respectively.

GENERAL INSURANCE BILL GETS PARLIAMENT NOD

A bill to allow privatisation of state-run general insurance companies got parliamentary assent on 11 August 2021 amid vociferous protest by opposition parties. **The General Insurance Business (Nationalisation) Amendment Bill, 2021** was passed by the Lok Sabha on 2 August 2021.

What

- According to the statement of objects and reasons of the general insurance amendment bill, it **seeks to remove the requirement** that the central government **should hold not less than 51 per cent of the equity capital** in a specified insurer.
- To provide for **greater private participation** in the **public sector insurance companies**, enhance insurance penetration and social protection, better secure the interests of policyholders and **contribute to faster growth of the economy**, it has become necessary to **amend certain provisions of the act**, according to the bill.
- The finance minister in the **Budget 2021-22** had announced a **big-ticket privatisation agenda** which included **two public sector banks** and **one general insurance company**.

Flashback

- There are **four general insurance companies** in the public sector - **National Insurance Company Limited**, **New India Assurance Company Limited**, **Oriental Insurance Company Limited** and the **United India Insurance Company Limited**.

BILL TO RESTORE STATES' RIGHTS ON OBC LIST

The Lok Sabha on 10 August 2021 passed a bill to restore the power of states and union territories to prepare and maintain their own list of socially and educationally backward classes (SEBCs). The **Constitution (One Hundred and Twenty-Seventh Amendment) Bill, 2021** was passed by the House with 385 members voting in its favour and none against in the final division.

What is the bill all about?

- In the statement of objects and reasons for passing the bill, the government has mentioned that the **102nd Constitution Amendment Act** has inserted **three new Articles — 342A, 366(26C) and 338B** — in the Constitution.
- While **Article 338B has constituted the National Commission for Backward Classes**, **Article 342A has dealt with the central list of the socially and educationally backward classes (OBCs)** and **Article 366 (26C) has defined the socially and educationally backward classes**.
- The legislative intent at the time of passing of the Constitution (One Hundred and Second Amendment) Act, 2018 was that it deals with the **central list of the socially and educationally backward classes (SEBCs)**.
- It recognises the fact that even prior to the **declaration of the Central List of SEBCs in 1993**, many States/Union territories are having their own State List/Union territory List of OBCs, the statement in the bill notes.
- The Supreme Court on 5 May 2021 also had a similar view. It had ruled that after the amendment, **states do not have the power to identify SEBCs**.

- The Centre had filed a **review petition** challenging the apex court ruling, which was dismissed by the latter. That's why the **Centre came out with the new bill to amend Article 342A**.

TRIBUNAL REFORMS BILL CLEARED

Lok Sabha on 3 August 2021 **cleared the Tribunals Reforms Bill, 2021** seeking to **replace an Ordinance** brought out in April to **abolish certain tribunals** which according to the government have not helped in **faster justice delivery**. The Bill was introduced in Lok Sabha on 2 August 2021 after withdrawing a similar Bill pending in the House. The statute will be effective from 4 April, the day the Ordinance was brought out, according to the Bill.

What

- The **idea is to abolish tribunals set up under various laws** including the **Cinematograph Act**, the **Copyrights, Act**, the **Customs Act**, the **Patents Act**, the **Airport Authority of India Act**, the **Trade Marks Act**, the **Geographical Indications of Goods (Registration and Protection) Act** and the **Protection of Plant Varieties and Farmers' Rights Act**.
- All pending cases before such tribunals or authorities will be **transferred to the commercial court** or the **High Court as necessary**.
- Finance minister Nirmala Sitharaman said, the **objectives of the Bill** that the government began **rationalising tribunals in 2015**.
- By the Finance Act, 2017, seven tribunals were abolished or merged** based on functional similarity and their total number was **reduced from 26 to 19**.
- The rationale followed in the first phase was to close down tribunals which were not necessary and merge tribunals with similar functions.
- In the second phase, **analysis of data of the last three years** has shown that tribunals in several sectors have not necessarily led to **faster justice delivery** and they are also at a considerable expense to the exchequer.
- Besides, the Supreme Court too had deprecated the practice of **'tribunalisation of justice'** and filing of appeals directly from tribunals to the Supreme Court in many of its judgements.

INTERNATIONAL

WORLD FIRST EVER PATENT TO AN AI SYSTEM

At first glance, a recently granted **South African patent** relating to a **"food container based on fractal geometry"** seems fairly mundane. The innovation in question involves interlocking food containers that are **easy for robots to grasp and stack**. On closer inspection, the patent is anything but mundane. That's because the **inventor is not a human being** – it is an **artificial intelligence (AI) system** called **DABUS**.

What

- DABUS** (which stands for **"device for the autonomous bootstrapping of unified sentience"**) is an AI system created by Stephen Thaler, a pioneer in the field of AI and programming.
- The system **simulates human brainstorming** and **creates new inventions**.
- DABUS is a particular type of AI, often referred to as **"creativity machines"** because they are capable of **independent and complex functioning**. This differs from everyday AI like **Siri**, the **"voice"** of **Apple's iPhones**.

4. The patent application listing **DABUS as the inventor** was filed in patent offices around the world, including the **US, Europe, Australia, and South Africa**. But only **South Africa granted the patent** (Australia followed suit a few days later after a court judgment gave the go-ahead).
5. The **granting of the DABUS patent** in South Africa has received widespread backlash from **intellectual property experts**. The critics argued that it was the incorrect decision in law, as **AI lacks the necessary legal standing to qualify as an inventor**.

What is the Creativity Machine?

1. **Creativity machines** can process and **critically analyse data**, learning from it. This process is known as **machine learning**.
2. Once the machine learning phase has occurred, the machine is able to **“autonomously” create without human intervention**. As has been seen in the COVID pandemic, as just one example, **AI is able to solve problems humans were unable to** – and also much faster than people can.

CRICKET INCLUSION IN 2028 OLYMPICS

The **International Cricket Council (ICC)** on 10 August 2021 confirmed its intention to bid for **cricket's inclusion** in the **2028 Los Angeles Olympics**. The ICC has been making the case for cricket's inclusion for a while and the bid will also have the backing from the world's richest board BCCI as made clear by secretary Jay Shah recently.

What

1. **Fearing loss of its autonomy and interference** from the **Indian Olympic Association (IOA)**, the BCCI was not very enthusiastic about cricket's inclusion in the Summer Games earlier but has assured **India's participation at the world's biggest sporting extravaganza** if the ICC manages to secure its entry.
2. The ICC has also formed an **Olympic Working Group** which will work on making the game part of the Olympics starting from 2028.
3. Clearly **cricket has a strong and passionate fanbase**, particularly in **South Asia** where **92% of our fans come from**, whilst there are also **30 million cricket fans** in the USA.
4. The game will be making a **return to the Commonwealth Games for the first time since 1998** with women's cricket set to be introduced in the **2022 Birmingham edition**.
5. The **only time cricket was part of the Olympics was in 1900** when England beat France in a two-day game.

JOINT EXERCISE BETWEEN INDIA AND SAUDI ARABIA

In a sign of **growing defence ties** between the two nations, the **naval army of India and Saudi Arabia** started their **first-ever joint exercise** on 12 August 2021, called the **Al-Mohed Al-Hindi Exercise**. The **sea phase of the exercise** began on 12 August 2021.

What

1. Bearing testimony to the **growing defence ties between India and Saudi Arabia**, **INS KOCHI**, the flagship destroyer of Indian Western Naval Fleet, arrived at Port Al-Jubail on 9 August 2021.
2. The visit by the ship heralds a **new chapter in the bilateral defence ties** with the commencement of the harbour phase of first Naval Exercise between the two countries – **'AL-MOHED AL-HINDI 2021'**.

3. AL-MOHED AL-HINDI 2021' which commenced on 9 August 2021 comprises a number of **shore and sea-based exercises** between the two friendly Navies.
4. **INS KOCHI**, an **indigenously designed** and built **Kolkata class stealth guided missile destroyer**, by **Mazagaon Dock Limited, Mumbai** was commissioned on 30 September 2015 and is **one of the most potent warships** in its class.
5. The ship incorporates **new design concepts for stealth** and has many firsts to her credit, including a large component of indigenous combat suites.
6. The Ship can be truly classified as a '**Network of Networks**' as it is equipped with sophisticated digital networks, besides a **sophisticated array of state of art weapons** and sensors to neutralise any threat from the air, sea and underwater.
7. The unique feature of the ship is the **high level of indigenisation** achieved with most of the systems onboard sourced from within the country.

ECONOMY

PM GATI SHAKTI MASTER PLAN

On **India's 75th Independence Day**, Prime Minister announced that the Centre will launch '**PM Gati Shakti Master Plan**', a **Rs. 100 lakh-crore project** for developing '**holistic infrastructure**'. In his speech, PM pegged the project as a **source of employment opportunities** for the youth in future.

What is Gati Shakti Master Plan?

1. **PM Gati Shakti Plan**, a 100 lakh crore national infrastructure master plan which will make a **foundation for holistic infrastructure** and give an integrated pathway to our economy.
2. The **Gati Shakti plan** will help raise the **global profile of local manufacturers** and help them compete with their counterparts worldwide. It also **raises possibilities of new future economic zones**.
3. The prime minister also said that India needs to increase both **manufacturing and exports**.
4. **Every product that is sold globally from India** is attached to India, which is every product of yours is a brand ambassador for India.

RETRO TAX LAW GETS PRESIDENTIAL ASSENT

The **taxation laws (amendment) Act, 2021** received the **assent of the President** on 13 August 2021, the law ministry said in a notification, **this scrapping the retrospective taxation clause** in income tax law. The bill which has now **become a law amends the Finance Act, 2012**, and the **Income Tax Act, 1961**, nullifying demands raised on transactions prior to 28 May 2012. Tax the indirect transfer of Indian assets will be applied prospectively from this date.

What

1. The **law provides a framework** for resolving **international arbitration cases** that the government has lost, namely those filed by Vodafone Group Plc and Cairn Energy and 15 others stemming from the retrospective tax law.
2. **Cairn Energy, Vodafone** and **about half a dozen of the companies** are learnt to have reached out to the government for settling lawsuits or legal proceedings ongoing in various fora. Some have sought clarity on refund amounts and the details of the new law.

3. As per the law, the **government will withdraw all tax demands levied retrospectively** and also **refund taxes collected** and settle cases if the companies withdraw challenges filed in all legal forums.

4. The government has collected Rs 8,089 crore in taxes in four of them, including Rs 7,880 crore from Cairn, which will be refunded. No interest will be paid on the taxes refunded.

5. The government will now issue rules and procedures for companies to settle their litigations.

What is the Retrospective Tax?

1. A **retrospective tax** is one that is **charged for transactions in the long past**. It can be a new or additional charge on transactions done in the past.
2. Ideally, **retrospective tax** is to make adjustments when **policies in the past and the present are so vastly different** that tax paid before under the old policy could be said to have been less. **Retrospective tax could correct that situation by charging tax** under the existing policy.
3. Retrospective taxation **allows a nation to implement a rule to impose a tax** on certain products, goods or services and deals and charge companies from a time before the date on which the law is passed.

ESSENTIAL DEFENCE SERVICES BILL 2021

The **Lok Sabha** passed the **Essential Defence Services Bill, 2021** on 3 August 2021. The **Essential Defence Services Bill, 2021**, seeks to **replace the ordinance promulgated in June 2021** and allows the Central Government to **prohibit strikes, lock-outs, and lay-offs** in units engaged in **essential defence services**. It was introduced in Lok Sabha by defence minister Rajnath Singh on 22 July, 2021.

What

1. The **prohibition order** will remain in force for **six months** and may be extended by **another six months**.
2. **Strikes and lock-outs** that are declared after the issue of the prohibition order or those that had commenced before the prohibition order was issued will be illegal.
3. The **prohibition will not apply to lay-offs made due to power shortage or natural calamity**, or lay-offs of temporary or casual workmen.
4. Under the new Bill, a **strike is defined as cessation of work** by a body of persons acting together.
5. The new Bill also **amends the Industrial Disputes Act, 1947** to include essential defence services under public utility services.

The essential defence services include:

1. Any establishment or undertaking dealing with the **production of goods or equipment** required for **defence-related purposes**.
2. Any **establishment of the armed forces** or connected with them or defence. These also include services that, if ceased, would affect the **safety of the establishment engaged in such services** or its employees.
3. In addition, the government may declare any service as an essential defence service if its cessation would affect the: (i) **production of defence equipment or goods**, (ii) **operation or maintenance of industrial establishments** or units engaged in such production, or (iii) **repair or maintenance of products connected with defence**.

E-COMMERCE PLATFORMS FOR SELF HELP GROUPS

The government will establish **e-commerce platforms** to provide a market for the products made by **self help groups (SHGs)**, said Prime Minister on 15 August 2021. Delivering his customary address to the nation **on the occasion of 75th Independence Day** on 15 August 2021, the Prime Minister said, there are **more than 8 crore women in the village** who are associated with **self-help groups**, who make products.

What

1. The government will prepare an **e-commerce platform** for their products to get a big market in the country and abroad.
2. He further said that the country is moving forward with the slogan of '**Vocal for Local**'.
3. India has started the '**Local for Vocal**' initiative and it is our responsibility to **buy indigenous products**. Our vision of **plastic-free India** can only be made true if we stop the use of single-use plastic completely, noted the Prime Minister.
4. Talking about development in rural areas, he said, Today we see our villages changing rapidly.
5. In past few years, facilities like **road, electricity have reached villages**. Today the **optical fiber network** is providing the power of data to villages.

SCIENCE AND TECHNOLOGY

ISRO'S GSLV ROCKET FAILS TO INJECT EOS-03

Indian Space Research Organisation (ISRO)'s GSLV rocket on 12 August 2021 **failed to inject into orbit** the country's latest **earth observation satellite EOS-03**. The satellite, meant for **quick monitoring of natural disasters** such as **cyclones, cloudbursts and thunderstorms**, was launched on a **geosynchronous satellite launch vehicle (GSLV)** from the Satish Dhawan Space Centre at Sriharikota.

What went wrong?

1. India's latest **earth observation satellite EOS-03** could not be injected into the orbit due to a **technical failure to ignite the cryogenic stage of the launch vehicle**, prompting ISRO to declare the mission could not be achieved as intended.
2. However, the **first and second stages of the rocket** had performed normally, the Indian Space Research Organisation said.
3. The **Cryogenic Upper Stage Project** formally **commenced in ISRO in 1994**, with the **first flight attempt in April 2010**.

What is the cryogenic stage?

1. A **cryogenic stage is the last stage of space launch vehicles**, which makes use of cryogenics.
2. The word refers to **technology of sub-zero temperature** where production and behaviour of materials is **studied at below -150 degree Centigrade**.
3. A **cryogenic rocket stage is more efficient** and provides more thrust for every kilogram of propellant it burns compared to solid and earth-storable liquid propellant rocket stages.

SATNAV POLICY 2021

India's satellite-based navigation and augmentation services sector appears headed for a higher growth trajectory with the proposed ignition of a policy push towards effective development, operation and maintenance of such systems. The **Department of Space (DoS)**

plans to devise a "**comprehensive and substantive**" national policy for satellite-based navigation -- the **Indian Satellite Navigation Policy - 2021 (SATNAV Policy - 2021)**.

What

1. In the last few decades, there has been a **phenomenal growth** in the number of applications that rely on **Position, Velocity and Time (PVT) services** provided by space based navigation systems.
2. With the **advent of information and mobile phone technology**, crores of users across India rely heavily on **PVT based applications** in virtually every walk of life.
3. **Global Navigation Satellite Systems (GNSS)** are space based navigation systems that provide **navigation signals across the globe**.
4. **Satellite-based Augmentation Systems (SBAS)** augment navigation satellite constellations by providing integrity and correction information via **geostationary satellites**.
5. **WAAS of USA, EGNOS of European Union, SDCM of Russia, SNAS/BDSSBAS of China** offer these services in their defined coverage area.
6. Government of India has also established a similar **SBAS system -- GPS Aided Geo Augmented Navigation- (GAGAN)** for the Indian airspace. **Space based navigation /augmentation system** is essentially a public good which has to be **accessible to all users**, the DoS said. Such a **national infrastructure** can only be provided by the Government.

Flashback

1. Currently, **there are four GNSS -- GPS from the USA; GLONASS from Russia; Galileo from European Union & BeiDou from China** -- offering PVT solution globally.
2. In addition, there are **two regional navigation satellite systems -- NavIC from India and QZSS from Japan** offering navigation signals for the **defined coverage area**.
3. The Navigation signals are offered **free-to-air for a variety of applications** ranging from **air, space, maritime and land applications** covering tracking, telematics, location based services (using cell phone and mobile devices), automotive, survey, mapping & GIS and timing.
4. The Government of India has, therefore, established a **resilient and independent system - Navigation with Indian Constellation (NavIC)** which is totally under its control.

CHANDRAYAAN 2 DETECTS H2O ON MOON

In a path-breaking discovery, **ISRO's Chandrayaan-2 orbiter** has detected **water molecules** on the **water surface**. According to the researchers, who analysed the data obtained by the orbiter's **imaging infrared spectrometre (IIRS)**, said: "There was widespread lunar hydration and **unambiguous detection of OH and H2O** signatures on the moon **between 29 degrees north and 62 degrees north latitude**". The findings were published in Current Science Journal.

What

1. According to the researchers, the **formation of hydroxyl or water molecules** occurs due to a process called **space weathering**, which is **when the solar winds blow over the lunar surface**.
2. It was also observed from the data that the **brighter sunlit highland regions** at higher latitudes of the Moon were found to have **higher hydroxyl or possibly water molecules**.
3. Besides, the study is crucial for **future planetary exploration for resource utilisation** as several international missions are lined up to the moon for the next few years.

Flashback

1. Isro **Chandrayaan-2 mission**, launched in 2019, **suffered a tragic crash** in which the lander got damaged but its orbiter has helped in new discoveries.
2. **Chandrayaan-2's mission** aims at **studying not just one area of the Moon** but all the areas **combining the exosphere**, the surface as well as the sub-surface of the moon in a single mission.
3. The **Chandrayaan-1 mission** had already **confirmed the presence of water on moon surface** but due to limited spectral coverage, the **exact nature of hydration could not be ascertained**.

MISCELLANEOUS

EARTH'S LONGER DAY KICK-STARTED OXYGEN GROWTH

Scientists have a **new idea for how Earth got its oxygen**: It's because the **planet slowed down** and **days got longer**. A study published 2 August 2021 proposes and puts to the test the theory that **longer, continuous daylight kick-started weird bacterium** into **producing lots of oxygen**, making most of life as we know it possible.

What

1. They dredged up **gooey purple bacteria** from a deep sinkhole in Lake Huron and tinkered with how much light it got in lab experiments. The **more continuous light** the **smelly microbes got** the more oxygen they produced.
2. One of the great mysteries in science is just how Earth went from a planet with **minimal oxygen to the breathable air** we have now.
3. Scientists long figured microbes called **cyanobacteria**, were involved, but couldn't tell what started the great oxygenation event.
4. Researchers in a study in **Nature Geoscience** theorize that **Earth's slowing rotation**, which **gradually lengthened days from six hours to the current 24 hours**, was key for the **cyanobacteria** in making the planet more breathable.
5. About **2.4 billion years ago** there was **so little oxygen in Earth's atmosphere** that it could barely be measured, so no animal or plant life like we know could live.
6. Instead, **lots of microbes breathed in carbon dioxide**, and in the case of **cyanobacteria**, **produced oxygen** in the earliest form of **photosynthesis**.
7. The study said this is just one possible but **plausible explanation** for **Earth's oxygen increase**.

KHEL RATNA AWARD RENAMED

The **Khel Ratna Award** will now be known as **Major Dhyan Chand Khel Ratna Award**, Prime Minister announced on 6 August 2021. The **Khel Ratna award is the highest sporting honour** in the nation. It was officially known as **Rajiv Gandhi Khel Ratna Award** in Sports and Games.

What

1. Some of the recipients of the award in the past include, **Virat Kohli**, hockey legend **Sardar Singh**, **Sania Mirza**, MS Dhoni, Vishwanath Anand, Dhanraj Pillay and Sachin Tendulkar.
2. **Major Dhyan Chand** is regarded as one of the greatest players to ever play the sport.

3. He was a central part of the team that **brought India three Olympic gold medals** from **1928 to 1936**.
4. He was **honoured with the Padma Bhushan in 1956** and his birthday on 29 August is celebrated as **National Sports Day in India every year**.

NEERAJ CHOPRA SCRIPTS HISTORY

Star javelin thrower **Neeraj Chopra** on 7 August 2021 became **only the second Indian** to win an **individual gold in the Olympics**, out-performing the field by quite a distance to notch up the first track-and-field Games medal for the country. The **23-year-old** from **Khandra village near Panipat** in Haryana produced a second round throw of 87.58m in the finals to stun the athletics world and **end India's 100-year wait for a track and field medal** in the **Olympics**.

What

1. **Chopra** won the **country's seventh medal** and **first gold in this Olympics** and **joined shooter Abhinav Bindra** (2008 Beijing Games) as India's individual gold winners in the showpiece.
2. With this, the **country surpassed the previous best** haul of six medal achieved in the 2012 London Games.
3. Czech Republic throwers **Jakub Vadlejch** (86.67m) and **Vitezslav Vesely** (85.44m) took the **silver and bronze** respectively.
4. **No Indian has won a medal in athletics** since the country started taking part in the **Games in 1920 in Antwerp, Belgium**.
5. **Three track and field athletes** were part of the five-member team -- the **other two being wrestlers** -- in that Games.

ENERGY BIOMETHANATION PROJECTS

The **Ministry of New and Renewable Energy (MNRE)** on 10 August 2021 said it has launched a **loan interest subvention scheme** in **association with UNIDI and GEF** to provide financial assistance for **innovative waste to energy biomethanation projects**.

What

1. The **industrial organic waste-to-energy bio-methanation projects** are generally capital intensive and financially sensitive to both operating costs, including **waste availability**, and revenue, particularly **biogas yield** and its **utilisation scenario**.
2. The **United Nations Industrial Development Organization (UNIDO)** and MNRE launched the **Global Environment Facility (GEF)-funded loan interest subvention scheme** that provides financial assistance to innovative waste to energy **biomethanation projects** and business models.
3. Innovations in such projects seek to improve overall energy output thereby **minimising the cost of energy generation** but may lead to an increase in the initial project cost at the establishment stage yet increase revenue and reduce operating costs over project's lifetime.
4. The loan scheme provides financial assistance to beneficiaries **to reduce the financial burden** on account of interest on the loan component faced by such demonstration projects.
5. A **GIS-based inventory tool of organic waste streams** developed under the **GEF-MNRE-UNIDO project** was also launched.
6. The tool provides district level estimates of available **urban and industrial organic wastes** and their energy generation potential across India.

- The tool will enable SMEs and project developers to set up new waste to energy projects and may facilitate the **rapid growth of biomethanation in waste-to-energy sector** in the country.

SCIENTISTS BLAST OFF 'THE BLOB' FOR ISS

Residents of the International Space Station will soon welcome their most unusual guest. On 10 August 2021, the 'Blob', an **unclassified organism**, blasted off into orbit. The **Blob is a physarum polycephalum**, a kind of **slime mould** which has always fascinated scientists. The **Blob will be part of an experiment** carried out by **astronauts in the ISS** and **students in France** at the same time.

What

- Appeared on Earth **about 500 million years ago**, the **slime mould defies biology** as we know it.
- The **blob has one cell** with **multiple nuclei** and while most organisms reproduce, it does not.
- Another **interesting feature** is that while most organisms present two sex types, **the Blob has more than 720**.
- The **slime mould has no mouth, legs or brain** and has a **yellowish and spongy mass**. It still eats, grows and moves.
- The goal of taking the **Blob up in space** is **to observe the effects of weightlessness**.
- Back on earth**, thousands of **slime mould specimens** will be **distributed to 4,500 schools and colleges in France** where students can touch the Blob and experiment on it to see the difference in **how the samples adapt in space and on Earth**.

VEHICLE SCRAPPAGE POLICY LAUNCHED

Prime Minister on 13 August 2021 launched **vehicle scrappage policy** and said that the policy is a **significant milestone in India's development journey**. He urged **youth and startups** to join the programme. The **vehicle scrapping policy** is aimed at **creating an eco-system** for phasing out unfit and polluting vehicles in an environmentally friendly and safe manner.

Aim of this Policy

- The policy intends **to create scrapping infrastructure** in the form of Automated Testing Stations and **Registered Vehicle Scrapping Facilities** across the country.
- The scrappage policy will **help modernise the vehicle fleet** and will ensure scientific disposal of old polluting vehicles. The vehicle scrapping policy is a move to **generate wealth from waste**.
- Vehicle Scrappage Policy** will play a big role in the **modernization of the vehicular population** in the country, removing unfit vehicles from the roads in a scientific manner.
- This policy will follow the principle **Reuse, Recycle and Recovery** will also promote the country's self-reliance in the auto sector and in the metal sector.
- The Prime Minister also said that the Centre is promoting a **circular economy** with an aim to develop a **sustainable and environment-friendly front**.
- A **circular economy** is one where products are designed for **durability, reuse and recyclability**.