

Lisbon Declaration

❖ Context

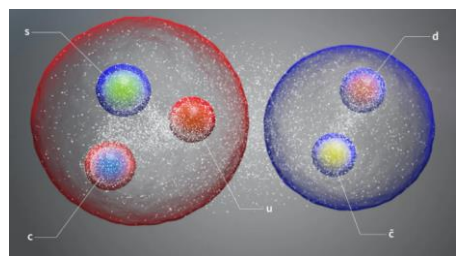
- All 198 members of the United Nations unanimously adopted July 1, 2022 the Lisbon Declaration on ocean conservation at the conclusion of UN Ocean conference 2022 to support the implementation of SDG 14 (**Life below water**).

❖ <u>Key Highlights of the Declaration & the Conference</u> • The declaration titled - “Our Ocean, Our Future, Our Responsibility”. • They collectively agreed to scale up science-based and innovative actions to address the ocean emergency. • It recognised that developing countries, in particular small island developing States and least developed countries, face capacity challenges that need to be addressed. • It emphasised the particular importance of implementing the Paris Agreement. • They agreed to work on preventing, reducing and controlling marine pollution. • The conference was co-hosted by Kenya and Portugal. ❖ <u>Voluntary commitments at the conference</u> • Investments: ▪ The Protecting Our Planet Challenge will invest at least USD 1 billion to support the creation, expansion and management of marine protected areas and Indigenous and locally governed marine and coastal areas by 2030. ▪ The European Investment Bank will extend an additional EUR 150 million across the Caribbean Region as part of the Clean Oceans Initiative. ▪ The Global Environment Facility approved a \$25 million grant towards Colombia’s marine protected areas. ▪ The Development Bank of Latin America announced a voluntary commitment of USD 1.2 billion. ▪ Ocean Risk and Resilience Action Alliance announced a multimillion-dollar global search for the next generation of projects to build resilience of coastal communities and finance through finance and insurance products.	• Marine Protected Areas and Pollution: ▪ Portugal committed to ensure that 100% of the marine area under Portuguese sovereignty or jurisdiction is assessed as being in Good Environmental State (as defined by the European commission). ▪ Kenya is currently developing a national blue economy strategic plan. It also committed to developing a national action plan on sea-based marine plastic litter. ▪ India committed to a Coastal Clean Seas Campaign and will work toward a ban on single use plastics, beginning with plastic bags. • Science & Innovation: ▪ Sweden will support enhanced scientific cooperation, including by providing USD 400,000 in 2022 to IOC UNESCO for the UN Decade of Ocean Science for Sustainable Development (2021-2030) in support of work on SDG 14 target 3. ▪ The Alliance of Small Island Developing States launched the Declaration for the Enhancement of Marine Scientific Knowledge, Research Capacity and Transfer of Marine Technology to Small Island Developing States. • Climate Action: ▪ USA and Norway announced a Green Shipping Challenge for COP 27. ▪ Singapore is also championing green shipping, encouraging carbon accounting by shipping companies, and research on low-carbon maritime fuels. ▪ Chile is working with specialised centres to develop a network of green corridors for maritime transport in order to achieve zero carbon shipping.
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Three New ‘Exotic’ Subatomic Particles

❖ Context

- Recently, **Conseil Européen pour la Recherche Nucléaire (CERN)** announced that the **Large Hadron Collider beauty (LHCb)** experiment has observed **three never-before-seen particles**.



❖ <u>Key Highlights</u> • LHCb is investigating the slight differences between matter and antimatter by studying a type of particle called the “beauty quark”, or “b quark”. • The LHCb collaboration has observed a new kind of pentaquark and the first-ever pair of tetraquarks as it seeks to unlock the building blocks of the universe in Big Bang recreation.	• The three “exotic” additions to the growing list of new hadrons found at the LHC: ▪ A new kind of “pentaquark”. ▪ The first-ever pair of “tetraquarks”. • Significance: ▪ It will help physicists better understand how quarks bind together into these composite particles.
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Face to Face Centres

❖ The Large Hadron Collider (LHC)

- **Structure:** The LHC is a **giant, and complex machine**.
 - Structurally, it is a **27-km-long track-loop buried 100 meters underground** on the Swiss-French border.
- **Objective:** It was **built to study particles** that are the smallest known building blocks of all things.
- **Experiment:** In its operational state, it fires **two beams of protons** almost at the **speed of light** in opposite directions inside a ring of superconducting electromagnets.
 - The **magnetic field keeps the protons in a tight beam** and guides them and finally collides.
 - It uses **liquid helium to keep its critical components ultracold** at minus 271.3 degrees Celsius, which is colder than interstellar space.

❖ Quarks

- Quarks are **elementary particles** that come in six “flavours”-
 - Up, down, charm, strange, top, and bottom.
- They usually **combine together in groups of twos and threes** to form hadrons such as the protons and neutrons that make up atomic nuclei.
- They can also **combine into four-quark and five-quark particles**, called tetraquarks and pentaquarks.

- These exotic hadrons were **predicted by theorists about six decades ago**.
- They have been **observed by LHCb and other experiments only in the past 20 years**.

❖ Tetraquarks and Pentaquarks

- Most exotic hadrons discovered in the past two decades are tetraquarks or pentaquarks containing a **charm quark and a charm antiquark**.
- The **remaining two or three quarks** are an up, down or strange quark or their antiquarks.
- Two years ago, the LHCb experiment **discovered an exotic tetraquark**.
 - It was made up of : Two charm quarks and two charm antiquarks.
 - Two “open-charm” tetraquarks consist of a charm antiquark, an up quark, a down quark and a strange antiquark.
- And last year it found the first-ever instance of a “**double open-charm**” tetraquark.
 - It was with two charm quarks and an up and a down antiquark.
 - Open charm means that the particle contains a charm quark without an equivalent antiquark.

Luhansk

❖ Context

- Recently, Russian President Vladimir Putin proclaimed **victory in the battle of Luhansk in eastern Ukraine** after months of fighting.
- Russia has said that it **will give Luhansk to the Russian-backed ‘Luhansk People’s Republic’**.



❖ Luhansk

- **Donetsk and Luhansk** are the two areas that together make up the **Donbas region** on the Ukraine-Russia border.

UKRAINE-RUSSIA CRISIS
Donetsk and Luhansk at a glance
The two self-proclaimed republics of Donetsk and Luhansk, located in eastern Ukraine, have been recognised as independent states by Russia.



- These two areas **broke away from Ukrainian government’s control** back in 2014.
- They proclaimed themselves independent “people’s republics”, but were not formally recognised by Russia until February 2022.

- Donbas is a key **industrial hub and important from a resource perspective** having the largest coal reserves in Ukraine.

- **Population:** Most of the 3.6 million people living in the Donetsk and Luhansk regions speak Russian, a result of a migration of Russian workers to the regions after World War II, during the Soviet era.
- **Strategic Region for Russia:**



- The Donbas region **offers strategic advantages for Russia**.
- By controlling the region, Russia **intends to create a ‘land bridge’ to Crimea**, a territory it annexed in 2014.

- Many sea ports in Russia are not navigable in winter due to extremely low temperatures.
- **Access to the Black Sea and warm water ports in Crimea** such as Sevastopol allows it to access important trade routes throughout the year.

Euro

❖ Context

- The euro slumped to a **two-decade low (since 2002)** recently as the latest 17% surge in European gas prices sparked fears of recession.



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❖ About Euro

- It is the monetary unit and currency of the **19 countries of the European Union (EU)**. The 19 participating EU countries are known as the **euro area, euroland, or the euro zone**.
- In 1998 the **European Central Bank (ECB)** was established, by **Treaty of Amsterdam**, to manage the euro.
- Based in Frankfurt, Germany, its president is appointed for a term of eight years.
- The euro was launched on **January 1, 1999**, replacing the precursor European Currency Unit (ECU) at a 1:1 value. It was introduced as a non cash monetary unit. **Currency notes and coins appeared on January 1, 2002**.
- Its origins lay in the **Maastricht Treaty (1991)** that included the creation of an economic and monetary union (EMU).
- The agreement was among the then **12 member countries** of the European Community (now the European Union) -United Kingdom, France, Germany, Italy, Ireland, Belgium, Denmark, the Netherlands, Spain, Portugal, Greece, and Luxembourg.
- The treaty set **strict criteria** for conversion to the euro and participation in the EMU:

- Annual budget deficits not exceeding 3 % of GDP.
- Public debt under 60 % of GDP.
- Exchange rate stability.
- Inflation rates within 1.5 % of the three lowest inflation rates in the EU, and long-term inflation rates within 2 %.

❖ About Recession

- A recession is a significant decline in economic activity that lasts for months or even years.
- Experts declare a recession when a nation's economy experiences negative gross domestic product (GDP), rising levels of unemployment, falling retail sales, and contracting measures of income and manufacturing for an extended period of time.
- In **1974**, economist **Julius Shiskin** came up with a few rules of thumb to define a recession. The most popular was **two consecutive quarters of contraction of GDP**.

States Rankings on Startup Ecosystem

❖ Context

- **Third edition** of ranking of states on support to startup ecosystems was released by DPIIT.

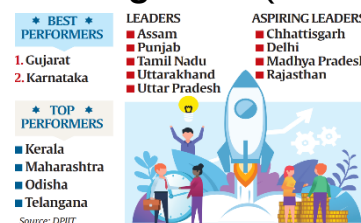


❖ Key Highlights

- For the purposes of the ranking, states and UTs are classified into 5 categories, viz. **Best Performers, Top Performers, Leaders, Aspiring Leaders and Emerging Start-up Ecosystems**.
- Gujarat and Karnataka** emerged as the Best Performers in a category of states which included NCT of Delhi.
- Meghalaya** won the top honour among UTs & NE States.
- The participants were evaluated across **7 broad reform areas** consisting of 26 Action Points ranging - *Institutional Support, Fostering Innovation and Entrepreneurship, Access to Market, Incubation support, Funding Support, Mentorship Support to Capacity Building of Enablers*.

❖ MAARG Portal

- Announcement of a new portal known as **mentorship, advisory, assistance, resilience, and growth (MAARG)** portal was also made.
- It is a tool for startups that can be accessed from every corner of the country to request and connect with a mentor.
- The mentorship programme would help in areas like profitability of a business model, dealing with corporate governance issues, scalability, funding gaps, branding and reputation building.



Critical Minerals

❖ Context

- Recently, **India and Australia** decided to strengthen their partnership in the field of projects and supply chains for **critical minerals**.



- About:** A critical mineral is a **metallic or non-metallic element** that has two characteristics:
 - It is essential for the functioning of our **modern technologies, economies or national security**.
 - There is a risk that its **supply chains could be disrupted**.
 - These minerals are now **used everywhere** from making mobile phones, computers to batteries, electric vehicles and green technologies like solar panels and wind turbines.

- Based on their individual needs and strategic considerations, **different countries create their own lists**.
- Examples of Critical Minerals: Graphite, lithium and cobalt**, which are used for making EV batteries.

Energy	Technology	Industrial	Steel	Batteries	Research
HAFNIUM RHENIUM TANTALUM URANIUM	GERMANIUM INDIUM GALLIUM RARE EARTHS	BERYLLIUM ZIRCONIUM TUNGSTEN ALUMINUM PGMs BARITE FLUORSPAR ARSENIC SCANDIUM STRONTIUM TITANIUM POTASH	MAGNESIUM CHROMIUM TIN TELLURIUM MANGANESE VANADIUM NIOBIUM	LITHIUM COBALT ANTIMONY GRAPHITE	HELIUM RUBIDIUM CESIUM BISMUTH
- Rare earths that are used for making magnets.
- Silicon** which is a key mineral for making computer chips & solar panels.
- Aerospace, communications and defense industries also rely on several such minerals as they are used in manufacturing fighter jets, drones, radio sets and other critical equipment.

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News in Between the Lines

National Health Claims Exchange



❖ Context

- Insurance Regulatory and Development Authority (IRDAI) and National Health Authority (NHA) will develop a National Health Claims Exchange as a digital platform to settle health claims.

❖ Key Highlights

- Based on a presentation by the National Health Authority, IRDAI has proposed creation of a working group with representation from the industry to decide how to make health insurance in India more attractive for people.
- Personal accident and health (PA&H) insurance was the largest segment, accounting for 33.8% of general insurance in 2021.

Nairobi Flies



❖ Context

- Recently, around **100 students of an engineering college in East Sikkim** have reported **skin infections** after coming in contact with Nairobi flies.

❖ Nairobi Flies

- **About:**
 - Nairobi flies, also called Kenyan flies or dragon bugs, **are small, beetle-like insects.**
 - It belongs to two species, **Paederus eximius and Paederus sabaeus.**
 - They are **orange and black in color.**
 - They **thrive in areas with high rainfall**, as has been witnessed in Sikkim in the past few weeks.
 - Like most insects, the **beetles are attracted by bright light.**
- **Infecting Humans:**
 - These flies **do not bite**, but if disturbed while sitting on anyone's skin, they **release a potent acidic substance** that causes burns.
 - This substance is called **pederin.**
 - It can **cause irritation if it comes in contact with the skin**, leading to lesions or unusual marks or colouring on the skin.
 - The skin begins to **heal in a week or two.** Some secondary infections can occur, especially if the victim scratches the irritated skin

Karakalpak



❖ Context

- During last week's **government crackdown on protests in Uzbekistan's autonomous province of Karakalpakstan**, at least 18 people were killed and 243 wounded.

❖ Key Highlights

- The protests had broken out in response to the **government's plan to restrict the region's long-held autonomy.**

❖ About Karakalpaks

- The name **Karakalpakstan** is **derived from the Karakalpak people**, an ethnic minority group of around 2 million.
- Karakalpak translates to '**black hat**', referring to their traditional headgear.
- The Karakalpaks consider themselves to be a **distinct cultural group in Uzbekistan.** Their **Turkic language – Karakalpak** – is closely related to Kazak and is one of the 7 languages of instruction in Uzbekistan's public schools.
- Their **separate language is a crucial aspect** of their cultural identity.
- The Karakalpaks claim to share a **common point of origin with the neighboring Kazakhs, Uzbeks and Turkmen.**
- At one point in time, Karakalpakstan **was one of the most fertile provinces in Uzbekistan**, due to its location next to the Aral Sea.
- **An environmental crisis, and the health and economic troubles** it brought in its wake, has made Karakalpakstan an impoverished region and invoked a sense of neglect among the Karakalpak people.

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