

Earth's magnetic field underwent a major weakening 591 million years ago

Research on ancient rocks from South Africa and Brazil suggests weakening of Earth's magnetic field during the Ediacaran period (about 635 million to 541 million years ago).

- ▶ This weak field overlaps with **Ediacaran oxygenation** (rise in oxygen levels), believed to be responsible for **emergence of early animals**.
 - ⊕ Weakened magnetic field **allowed hydrogen to escape** into space, leaving fewer molecules for oxygen to bind with, translating into **more free oxygen in the atmosphere and oceans**.

Earth's magnetic field

- ▶ Earth is surrounded by an immense magnetic field forming a region called **Magnetosphere**.
- ▶ Earth's magnetic field is generated in the Earth's outer core by the **geodynamo process**.
 - ⊕ Here, the **convective energy** (which moves heat) from the **slow-moving molten iron** is converted to electrical and magnetic energy.
- ▶ The magnetic field forms **two poles** (a dipole) – **North and South magnetic poles** – having opposite polarities, like a bar magnet.
- ▶ Most dramatic changes impacting Earth's magnetosphere are **pole reversals**.

Significance of Earth's magnetic field

- ▶ It **prevents erosion** of Earth's atmosphere by **harmful solar wind**.
- ▶ It **protects Earth** from particle radiation emitted during **Coronal Mass Ejection (CME)** events and from **cosmic rays**.
- ▶ It guides particles from Sun towards poles where they create **auroras**.

Magnetic Pole reversal:

The forces that generate Earth's magnetic field are **constantly changing**, causing changes in strength of magnetic field.

- ▶ This causes the **location of Earth's magnetic north and south poles to gradually shift**, and to **even completely flip locations** around every 300,000 years.
- ▶ During a pole reversal, the magnetic field **weakens but doesn't completely disappear**.
- ▶

China and Russia agreed to deepen the Comprehensive Strategic Partnership of Coordination for the New Era as year 2024 marks the 75th Anniversary of China-Russia Diplomatic Relations.

China-Russia Relationship

- ▶ **Political:** Signed a "**no-limits**" **strategic partnership** before Russia-Ukraine war.
- ▶ **Strategic:** China is **top supplier of dual-use items** (both civilian and military applications) to Russia.
- ▶ **Economic:** China became **Russia's biggest trading partner** (bilateral trade **exceeded \$240 billion in 2023**).

Factors uniting China and Russia: Similar perceptions of US hegemony, common fear of NATO expansion, alternative approaches to exercising international influence and jointly managing shared interests.

Implications of China-Russia Relationship on India

- ▶ **Security concerns:** Much of **Indian defence supplies** come from Russia, and concerns related to timely supplies arise during India's confrontations with China.
- ▶ **Diminished support:** Russia's dependence on China **reduces the likelihood of it pressuring China** in border confrontations with India.
- ▶ **India's Neighbourhood:** Alteration to **regional power dynamics**, potentially **limiting India's influence** in the region.
- ▶ **Recalibrating Strategic Priorities:** China-Russia alliance is directed against the USA and West and **impinges on India's geopolitical trajectory** in Indo-Pacific and Eurasia.

Global Implications of China-Russia Relationship

- ▶ Alliance facilitated the **resurrection of Western unity** under American leadership **along with expansion of NATO**. **Geopolitical restructuring** with increasing western military support to Southeast Asian countries and India's embrace of US led security groupings.
- ▶ Highlights **failure of multilateral security system** in preventing conflicts.

Concerns over functioning of Asset Reconstruction Companies (ARCs)

Reserve Bank of India (RBI) highlighted **supervisory concerns in functioning of ARCs** during a conference with the theme 'Governance in ARCs – Towards Effective Resolutions'.

Asset Reconstruction Companies (ARCs)

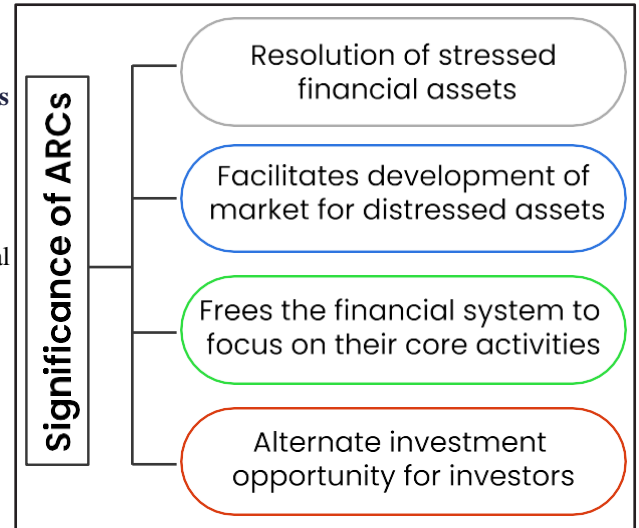
- ARCs are financial institutions which **acquire and manage stressed assets** from banks and financial institutions.
- ARCs are registered as a company under Section 3 of SARFAESI (Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest) Act, 2002.

Issues with ARCs

- **Back-door entry to defaulting promoters** of insolvent companies
 - ⊖ Selling of assets to entities with whom the defaulting promoter has struck a deal.
- **Lengthy settlement process** with borrowers.
- **Revival and reconstruction of businesses is mainly for recovery of debts** rather than improving business health.
- **Non-adherence** to transparent and non-discriminatory practices.

Measures to improve ARCs governance

- Develop a **strong institutional culture** with prioritization of integrity and ethical conduct.
- Follow **transparent and non-discriminatory practices** in line with Fair Practice Code (FPC) put in place by RBI.
- Accord due importance to **assurance functions**, namely, risk management, compliance and internal audit.
- Adopt a **regulation plus approach**, where compliance with the letter and spirit of the regulation is achieved.



World Economic Situation and Prospects 2024-Mid year Update Report

The report is prepared by the **United Nations Department of Economic and Social Affairs**. **Key**

Highlights of the report:

- The world economy is projected to grow by **2.7 per cent in 2024**, instead of 2.4 per cent forecasted earlier.
- **India's** expected growth rate for the year **2024 is 6.9%, and for 2025 it is 6.6%**.
- Technological breakthroughs especially processing and use of **critical minerals has opened up new opportunities for boosting economic growth**.

Critical Minerals

- They are metallic or non-metallic elements that are considered to have a role in a **country's economic or national security**.
- **Every country develops their own lists of critical minerals** based on the relative importance of industrial needs and strategic assessment of supply risks.
- **India has listed 30 critical minerals** like Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium etc.

Challenges in investment of critical minerals

- **Concentration of resources in a few geographical locations** may lead to supply chain vulnerabilities For ex-**Lithium triangle** consisting of **Argentina, Chile and Bolivia**
- **Supply-chain and national security concerns** are increasingly shaping critical mineral sector policies for ex-European Union's Critical Raw Materials Act (2024).
- **Unsustainable Mining and processing**.

India's initiatives for Critical minerals

- **Khanij Bidesh India Limited (KABIL):** formed to identify, acquire, process and make commercial use of strategic minerals in overseas locations for supply in India.
- **Mineral Security Partnership (MSP):** India has become member of MSP led by the US to accelerate the development of diverse and sustainable critical energy minerals supply chains globally
- **Mines and Minerals (Development and Regulation) Amendment Act, 2023:** Central Government to auction areas for Critical and strategic minerals.
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50 years since India's first Nuclear test

Test was carried out at **Pokhran, an army test range** in the desert of western Rajasthan, with a **plutonium device** in the 10-15 kilotons range and **code named Operation Smiling Buddha** in 1974.

With the test, **India became the first nation** to conduct a nuclear test apart from the five permanent members of the United Nations Security Council (P-5).

In 1998, India conducted a series of nuclear tests again in Pokhran by the code-named **Operation Shakti**.

► These tests gave India the capability to **build nuclear weapons** from low yields up to around 200 kilotons.

Factors driving India's Pokhran I:

- **To establish a deterrent capability against potential adversaries** and safeguard national security interests.
- **India's objection to Nuclear Non Proliferation Treaty (NPT)** on the grounds that it was discriminatory to countries except the P-5.

Response to the test

- **In 1975, Nuclear Suppliers Group (NSG)** was established following the explosion.
- **It comprises 48 states that have voluntarily agreed** to coordinate their export controls to non-nuclear-weapon states.
- It governs the **transfers of civilian nuclear material** and nuclear-related equipment and technology.

India's Nuclear doctrine

Building and maintaining a **credible minimum deterrent**.

- A posture of "**No First Use**", nuclear weapons will only be used in retaliation against a nuclear attack
- Non-use of nuclear weapons against **non-nuclear weapon states**. Nuclear retaliatory attacks can only be **authorised by the civilian political leadership**.
- Commitment to the goal of a **nuclear weapon free world**.
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Lower tariffs are required to become part of GVC: NITI Aayog CEO

Global Value Chain (GVC) refers to international production sharing, which is the process of **breaking down production into activities and tasks** that are completed in different countries.

Benefits of GVC

- Helps in **building domestic companies** that can compete globally
- Higher foreign exchange earnings.
- Leads to **faster growth**, import of **skills and technology**, and **boost employment**.

Reasons behind India's weak GVC integration

- India has not been part of **significant trade blocs** for ex-SAARC is inactive and India has withdrawn from RCEP.
- **Historical inward looking industrial policies** for ex- license Raj, import substitution.
- The pace of **re-skilling and up-skilling of the workforce** is slow.
- Lack of **integration with lead firms** for ex- Bangladesh outperforms India in the garment industry due to its alignment with GVC lead firms.

Way Forward

- **Streamline ports and customs operations** and improve turnaround time.
- **Accelerate free trade agreements** with key partners.
- **Ensure International Quality Standards** by ensuring adherence to global standards and certification systems.
- **Target High-Value specific segments** such as defense, electronics, etc.
- Accelerated adoption of **e-governance and e-compliance** in trade.

Measures Taken for Integration with GVC

- **Production Linked Incentives Scheme** offering incentives to manufacturers on incremental sale.

- Consolidation of **labor laws**, improvement in **logistics performance index**.
- **Infrastructure development** such as Bharatmala, Sagarmala
- Liberalization of **Foreign Direct Investment Norms**.
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IndiaAI Mission



Government is ready to finance up to 50% to create Artificial Intelligence (AI) compute infrastructure in the country.

- Presently, AI compute infrastructure is being created under the **IndiaAI Compute Capacity (IAICC) component of IndiaAI mission**.
- IAICC aims to erect a **scalable AI computing infrastructure** by deploying over 10,000 Graphics Processing Units (GPUs) through strategic public-private collaborations.

IndiaAI mission

- **Objective:** To establish a robust AI ecosystem through strategic programs and partnerships across public and private sectors.
- **Implementation:** By '**IndiaAI**' **Independent Business Division (IBD)** under **Digital India Corporation (DIC)**.
- **Components** include IndiaAI Compute Capacity, IndiaAI Innovation Centre, IndiaAI Datasets Platform, etc.



Deda Method

Muria tribes practice the **deda, traditional method of preserving seeds**.

About Deda Method

- Seeds are wrapped in leaves, packed tightly to look like boulders, and woven with Siali leaves.
- **Benefits: Protection of seed from pests and worms**, which can be stored and used upto 5 years.

About Murias

- Sub-group of Gond tribe, belonging to **Chhattisgarh**.
- Associated with **Muria Rebellion of Bastar (1876)** against Gopinath Kapardas, diwan of Bastar.
- **Customs: Dead pillars (Gudi)**, where dead are buried with a stone placed 6 to 7 feet high and **Ghotul** where young boys and girls chose their own life partner.



World Organisation for Animal Health (WOAH)

WOAH released Annual Report on **Antimicrobial Agents Intended for Use in Animals**

About WOAH

- **Headquarter: Paris**
- **Genesis:** founded in 1924 as the **Office International des Epizooties** and in 2003 adopted the common name WOAH.
- **About:** An **intergovernmental organization** focused on transparently disseminating information on animal diseases and improving animal health globally.
- **Members:** It works with 183 Members (India is a member).



National Endangered Species Day (NESD) 2024

NESD 2024 has been observed. About NESD, 2024

- The theme for the year 2024 is “**Celebrate Saving Species**”
- It is observed on the **third Friday in the month of May**.
- **David Robinson and the Endangered Species Coalition** established NESD in 2006.
- **Significance**
 - ⊕ To increase awareness about the number of species facing extinction
 - ⊕ Calls for action to reduce the harmful human activities that threaten species.
 - ⊕ Encourages us to contribute to the well-being of nature and endangered species.



Nile River

Researchers have discovered an **extinct branch of Nile River – the Ahramat Branch** – that once flowed alongside pyramids in Egypt.

River Nile:

- **Longest river in the world**, it flows from south to north through **Eastern Africa**.
- **Origin:** It rises from rivers that feed **Lake Victoria** and flows northward through **northeastern Africa** to drain into the Mediterranean Sea.
- **Basin:** Nile runs through or along the border of **11 African countries**, Egypt, Burundi, Tanzania, Rwanda, Democratic Republic of the Congo, Kenya, Uganda, Sudan, Ethiopia, Eritrea and South Sudan.
- **Tributaries:** White Nile, Blue Nile, Atbara.



Open Network for Digital Commerce (ONDC)

Department for Promotion of Industry and Internal Trade (DPIIT) or- ganized the ‘**ONDC Startup Mahotsav**’.

About ONDC

- It is a **Section 8 company (non-profit organization)**, under the initiative of DPIIT.
- **Aim:** to democratize digital commerce.
 - ⊕ ONDC platform serves as the **intermediary layer** between the interfaces hosting the buyers and the sellers.
- **Founding members:** the Quality Council of India and Protean eGov Technologies.
- **Benefits:** lower entry-barriers to digital commerce, provides level playing field for all e- Commerce models, etc.



Allocation of time on state media to political parties

Two leaders asked to make certain changes to their speeches made on Doordarshan and All India Radio (AIR) **during the allocated broad- cast time**.

Allocation of time on state media to political parties

- **The Election Commission of India (ECI)** allocates time to national and state parties.
- National parties get **telecasting time on Doordarshan’s national channel and regional channel as well as on AIR**.
- State parties get telecasting time on the **appropriate regional Doordarshan channel and AIR radio station**.
- **The ECI’s guidelines forbid criticism** of other countries; attack on religions or communities, etc.



Port of Call

At the port of Cartagena, Spain denies port call to vessel carrying shipment of arms to Israel from India.

About Port of Call

- It is a type of port classified on the **basis of specialized functions**.
- They are on main sea routes where ships anchor **for refueling, watering and taking food items**.
- They can also be developed into **commercial ports for ex- Aden, Honolulu and Singapore, etc**.

Places in News



New Caledonia (Capital: Noumea)

France declares a state of emergency in New Caledonia.

Political Features:

- ⊕ A **French overseas island territory** in the South West Pacific Ocean.
- ⊕ **Maritime Neighbours:** Australia, Fiji, New Zealand, Papua New Guinea and Vanuatu.
- ⊕ New Caledonia is one of the European Union’s Overseas Countries and Territories (OCTs), **but is not part of the European Union, the Euro or Schengen zones**.

Geographical Features:

- ⊕ **Mountain Range:** Mount Panié range
- ⊕ **Highest Point:** Mount Panié
- ⊕ **Major River:** Diahot River
- ⊕ **Lagoons of New Caledonia and associated coral reef ecosystem** is a UNESCO world heritage site.

