FWD ▶

FORTUNE WEEKLY DIGEST

> Nobel Prize 2024   > Classical Languages   > India – ASEAN Relations

FWD
FORTUNE WEEKLY DIGEST

EDITOR'S NOTE

As UPSC aspirants, it is essential to stay updated on current affairs to excel in the examination. This **Fortune Weekly Digest (ForWarD)** brings you the latest news and developments from around the world, carefully curated and analyzed to help you prepare for the Civil Services (Main) Examination.

We understand that time is precious, and we have made sure to present the information in a concise and easy-to-understand manner.

The magazine is divided into different sections. Mains relevant topics have been covered in detail with a UPSC previous year question perspective. The jot downs are examples and interesting facts to enrich your answer writing. Cherrypicks has some key words from the week, helpful again in answer writing and essay. We have also included essay topics and sample questions to help you guage your preparation.

We have designed this magazine to best supplement the daily current affairs notes we have launched by the name of **FIND (Fortune IAS News Daily)** and **FINDER (Fortune IAS News Daily Explainer)** and the **Fortune Prelims Precise** monthly compilation. This magazine will be explained in detail and your queries addressed in a live class we conduct.

At a time when there is no dearth of current affairs materials, our hope is help you get a one-stop solution for all your current affairs needs.

This magazine is a work in progress and your feedback will be appreciated.

We hope that this magazine will serve as a valuable resource for your exam preparation and contribute to your success in the UPSC examination.

INDEX

INDIA-ASEAN RELATIONS

> *Syllabus: GS II - Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.*

PYQ MAPPING

Q) Evaluate the economic and strategic dimensions of India's Look East Policy in the context of the post-Cold War international scenario.**(2016)**

Q) Indian Diaspora has an important role to play in South-East Asian countries' economy and society. Appraise the role of Indian Diaspora in South- East Asia in this context **(2017)**

SHORT TAKES

➢ **India-ASEAN Trade Deal**:

o Signed in 2009, the India-ASEAN trade deal aimed to enhance trade relations by **reducing tariffs** and facilitating the **import of essential materials like palm oil and natural rubber.**

o However, growing **concerns about trade imbalances and the rerouting of Chinese goods through ASEAN** have prompted calls for a review by 2025 to address the rising trade deficit and protect Indian industries.

WHY IN NEWS

The **21st ASEAN-India Summit 2024, held in Vientiane, Laos**, saw Prime Minister Narendra Modi announce a 10-point plan focused on enhancing cooperation between India and ASEAN. Modi also highlighted the need for mutual respect for national integrity and sovereignty, underlining its significance in the current geopolitical climate.

INTRODUCTION

India-ASEAN relations have deepened significantly, evolving from the Look East Policy of the 1990s to the more proactive Act East Policy introduced in 2014. This strategic partnership spans areas like trade, security, and connectivity, with ASEAN playing a pivotal role in India's Indo-Pacific vision. The relationship emphasises mutual cooperation for peace, stability, and regional development.

ASSOCIATION OF SOUTH EAST ASIAN NATIONS (ASEAN)

➡ **Origin**: Established on **August 8, 1967**, in **Bangkok, Thailand**. The founding members were Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

o **Members**: It **currently comprises 10 member states** namely Indonesia, Malaysia, the Philippines, Singapore, Thailand, India, Vietnam, Laos, Cambodia and Brunei Darussalam. Laos is the current chair of ASEAN.

➡ **Bangkok Declaration**: The founding document of ASEAN that lays down the aims of ASEAN, primarily to promote regional peace, stability, and economic cooperation, as well as social progress and cultural development in Southeast Asia.

➡ **Symbolism and Structure:** ASEAN has its own **anthem, flag**, and holds **biannual summits** with a **rotating chairmanship**.

o The official motto is **"One Vision, One Identity, One Community"**

➡ **Three Major Pillars of ASEAN:** Operates through three major pillars, which guide cooperation:

o ASEAN Political-Security Community (APSC)

o ASEAN Economic Community (AEC)

o ASEAN Socio-Cultural Community (ASCC)

➡ **ASEAN-Led Forums and Their Objectives**

o **ASEAN Regional Forum (ARF):** To promote dialogue and cooperation on political and security issues in the Asia-Pacific region, including peacekeeping, counterterrorism, and maritime security.

o **East Asia Summit (EAS):**To provide a platform for strategic dialogue on broad issues such as economic cooperation, security, and political stability between ASEAN members and major powers like China, India, Japan, the U.S., and others.

o **ASEAN+3 (APT):** To strengthen regional cooperation and integration between ASEAN and three East Asian nations—**China, Japan, and South Korea**—mainly in areas like trade, finance, and food security.

o **ASEAN Defense Ministers' Meeting Plus (ADMM-Plus):** To foster defence and military cooperation among ASEAN members and key partners like the U.S., China, India, Australia, and Japan, focusing on counterterrorism, maritime security, and disaster relief.
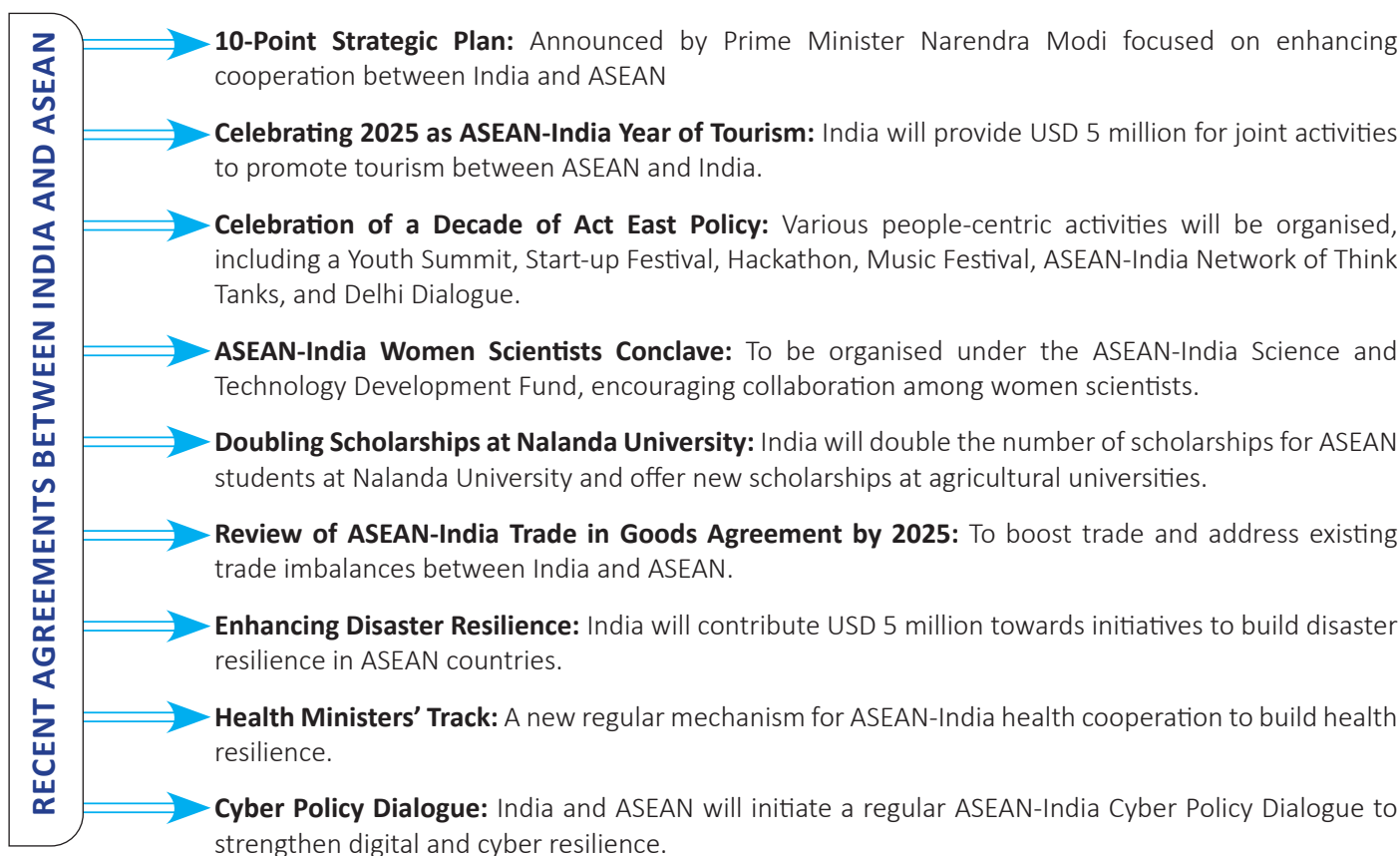
ISSUES WITH ASEAN

▼ **Myanmar Crisis:** The Five-Point Consensus (established by the ASEAN member states in 2021 to address the political crisis in Myanmar) has seen little progress since 2021.

　o　The ongoing civil war in Myanmar has led to internal divisions within ASEAN, affecting its ability to present a unified front in regional diplomacy.

▼ **South China Sea Disputes:** China has ongoing territorial disputes with five ASEAN nations in the South China Sea, including the Philippines and Brunei.

　o　While ASEAN seeks regional solutions, countries like the Philippines are pursuing bilateral or multilateral negotiations, potentially fracturing unity.

▼ **Internal Disparities:** Differing political systems and levels of economic development.

   o   ASEAN consists of democracies, autocracies, and hybrid regimes, which complicates consensus on human rights and governance.

   o   Significant development gaps exist between richer members like Singapore and less developed nations like Laos and Cambodia.

▼ **Nationalism vs. Regional Unity:** Intra-ASEAN connectivity and benefits such as ease of travel and trade are hindered by national-level concerns, undermining the "One Vision, One Identity, One Community" motto.

IMPORTANCE OF INDIA - ASEAN RELATIONS

☼ **Strategic Importance:** The Indo-Pacific region is vital for India providing opportunities for enhanced connectivity, trade, and security cooperation**.**

☼ **Economic Growth:** With a trade volume exceeding USD 130 billion, ASEAN is one of India's largest trading partners, making it a crucial economic ally.

☼ **Shared Values:** India and ASEAN share a commitment to peace, stability, and rule-based order, contributing to regional security and development.

☼ **Cultural and Civilizational Ties:** India shares strong cultural ties with ASEAN nations, enriched by the shared heritage of Buddhism and the Ramayana.

☼ **Technology and Innovation:** India and ASEAN have potential collaboration in emerging technologies such as AI, IoT, blockchain, and 6G, which can drive economic growth and innovation.

RECENT AGREEMENTS BETWEEN INDIA AND ASEAN

10-Point Strategic Plan: Announced by Prime Minister Narendra Modi focused on enhancing cooperation between India and ASEAN

Celebrating 2025 as ASEAN-India Year of Tourism: India will provide USD 5 million for joint activities to promote tourism between ASEAN and India.

Celebration of a Decade of Act East Policy: Various people-centric activities will be organised, including a Youth Summit, Start-up Festival, Hackathon, Music Festival, ASEAN-India Network of Think Tanks, and Delhi Dialogue.

ASEAN-India Women Scientists Conclave: To be organised under the ASEAN-India Science and Technology Development Fund, encouraging collaboration among women scientists.

Doubling Scholarships at Nalanda University: India will double the number of scholarships for ASEAN students at Nalanda University and offer new scholarships at agricultural universities.

Review of ASEAN-India Trade in Goods Agreement by 2025: To boost trade and address existing trade imbalances between India and ASEAN.

Enhancing Disaster Resilience: India will contribute USD 5 million towards initiatives to build disaster resilience in ASEAN countries.

Health Ministers' Track: A new regular mechanism for ASEAN-India health cooperation to build health resilience.

Cyber Policy Dialogue: India and ASEAN will initiate a regular ASEAN-India Cyber Policy Dialogue to strengthen digital and cyber resilience.

CHALLENGES IN INDIA - ASEAN RELATIONS

● **China's Influence**: Balancing relations with ASEAN while managing China's growing influence in the region presents a diplomatic challenge for India.

● **Connectivity Issues**: Physical and digital connectivity projects between India and ASEAN countries face delays, affecting potential cooperation in trade and people-to-people exchanges.

● **Example**: The delayed progress of India's projects like the **India-Myanmar-Thailand Trilateral Highway** is viewed unfavourably when compared to China's more active Belt and Road Initiative (BRI).

● **Trade Imbalance:** India faces an increasing trade

deficit with ASEAN, with China being the largest trading partner for ASEAN countries, limiting the progress in India-ASEAN trade relations.

- **India's Membership in Quad:** India's involvement in the Quad (with the U.S., Japan, and Australia) has raised concerns within the ASEAN region regarding potential shifts in regional power dynamics.

- **Territorial Disputes**: Ongoing territorial disputes among ASEAN members, such as the South China Sea issue, complicate India's efforts to engage with the bloc while promoting regional stability.

- **Walking out of RCEP**: India's decision to withdraw from the Regional Comprehensive Economic Partnership (RCEP) negotiations at the last minute caused economic disappointment among ASEAN nations.

- **Trade and Investment Barriers:** Complex customs procedures, non-tariff barriers, and inconsistent regulations have hindered smoother trade and investment flows between India and ASEAN.

WAY FORWARD

- **Strengthening Connectivity:** India and ASEAN should prioritise completing key infrastructure projects, such as the India-Myanmar-Thailand trilateral highway, to enhance regional trade and connectivity.

- **Alternative to China:** India can position itself as an **alternative partner** to ASEAN by focusing on **infrastructure development** without the risks associated with **debt traps**.

- **Enhancing Economic Cooperation:** A review of the ASEAN-India Trade in Goods Agreement is essential to address trade imbalances and further boost economic ties.

  » Since ASEAN is a 10-country bloc and not a customs union, India is also exploring a country-wise approach in the ASEAN review talks.

- **Deepening Cultural Ties:** Strengthening **bilateral engagements** and building on **cultural linkages** like the **Ramayana** and **Buddhist heritage** will further solidify India-ASEAN relations.

- **Fostering Technological Collaboration**: Cooperation in emerging technologies like AI, quantum computing, and robotics can be expanded to drive innovation and economic growth.

- **Addressing Regional Security Issues:** Continued collaboration on maritime security, cyber resilience, and counter-terrorism will be crucial in maintaining regional stability.

- **Inclusive Diplomacy:** India should engage all ASEAN members, including Myanmar, through diplomatic channels to support regional peace and uphold ASEAN's centrality in Indo-Pacific affairs.

CONCLUSION

India-ASEAN relations have strengthened significantly over the years, with trade nearly doubling to over USD 130 billion in the last decade. The 21st ASEAN-India Summit includes initiatives in tourism, education, and cybersecurity, aimed at enhancing collaboration in various sectors. With a shared commitment to maintaining peace and stability in the Indo-Pacific, India and ASEAN are poised to address regional challenges and foster economic growth together.

SAMPLE QUESTION

Q) Examine the key challenges facing India-ASEAN relations today and explore opportunities for enhancing collaboration in the Indo-Pacific region **(10 marks)(150 words)**

MIDDLE INCOME TRAP

Syllabus: GS III - Indian Economy

PYQ MAPPING

Q) The nature of economic growth in India is described as jobless growth. Do you agree with this view? Give arguments in favour of your answer. **(2015)**

Q) Do you agree with the view that steady GDP growth and low inflation have left the Indian economy in good shape? Give reasons in support of your arguments.**(2019)**

SHORT TAKES

Chaebols: Large, family-owned conglomerates in South Korea that play a significant role in the country's economy, often comprising multiple subsidiaries across various industries. Notable examples include Samsung and Hyundai which have become global leaders in sectors such as electronics, automotive, and consumer goods.

WHY IN NEWS

The World Bank's World Development Report 2024 highlights the "middle-income trap," where countries experience stagnation in growth as they approach higher income levels. It estimates that **economies with per capita incomes 11% of the U.S. average struggle to transition to high-income status**. Over the past 34 years, only 34 middle-income economies have successfully made this leap, underscoring significant development challenges.

INTRODUCTION

Many countries experience a slowdown in economic growth after reaching middle-income levels, making it difficult to achieve high-income status. This challenge, often referred to in global economic discussions, has become a key focus for policymakers. Understanding the factors behind this stagnation and learning from successful examples is crucial for countries like India aiming for sustained development.

ABOUT MIDDLE INCOME TRAP

➡️ **Origin of the concept**

o In **2007, a World Bank report** introduced the concept of the "middle-income trap" to describe countries, **primarily in Latin America and the Middle East,** that experienced economic growth and declining poverty rates but failed to transition into high-income status.

➡️ **What is it?**

o **Stagnation after initial growth:** The middle-income trap occurs when countries experience robust economic growth and reach middle-income status but struggle to maintain the growth needed to transition to high-income levels.

o **Loss of competitiveness**:As wages rise, middle-income countries **lose their advantage in low-cost manufacturing without yet achieving the innovation capabilities** to compete with advanced economies in high-tech sectors.

➡️ **Can nations come out of it?**

o **Yes, through targeted policies**: Countries like South Korea and Chile have successfully escaped the middle-income trap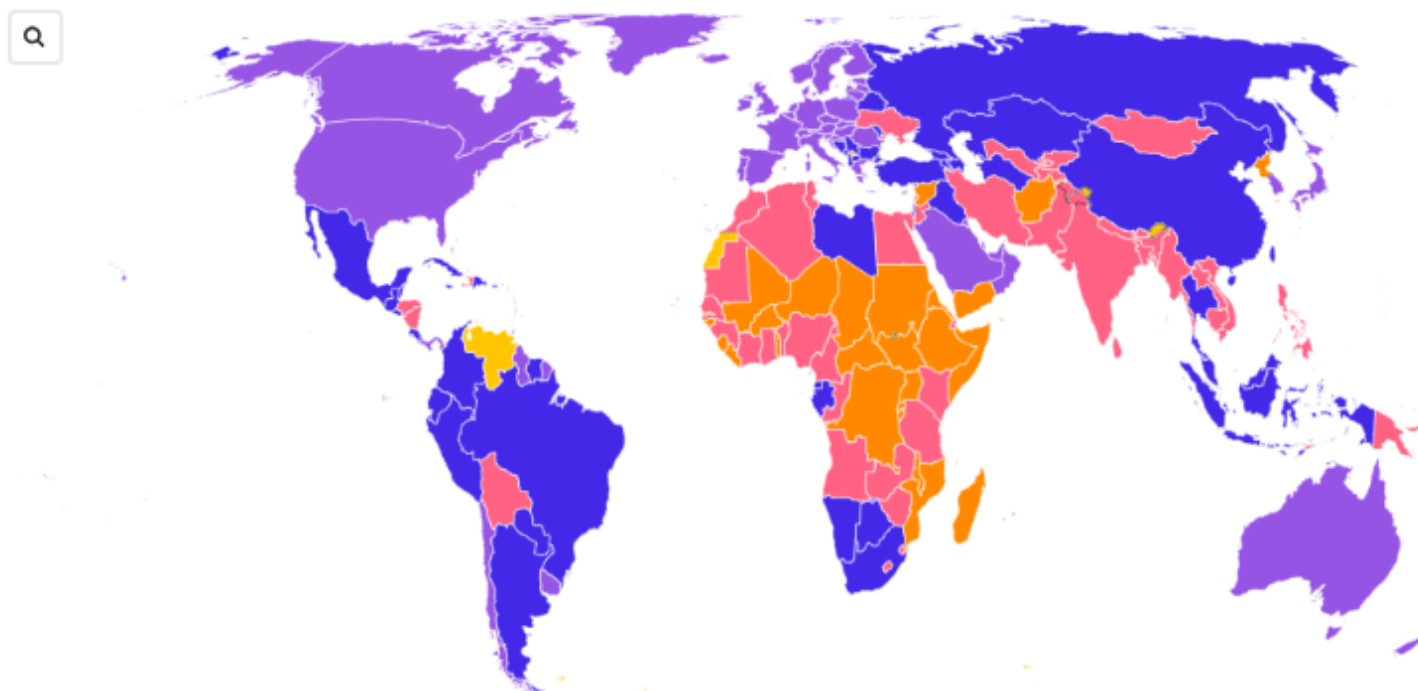 by implementing state-driven policies focused on export-led growth, industrial innovation, and technological advancement.

o **Key strategy of 3i" approach:** Nations need to invest in infrastructure and human capital, ensure the infusion of global technologies, and create an environment for domestic innovation to foster long-term, sustainable growth.

➡️ **Is India in the Middle-Income Trap?**

o **Position of India:** Currently, there are **108 countries** — including major economies like **China, Brazil, Türkiye and India — stuck in the "middle-income trap"**, according to the World Bank.

o **Structural concerns:** India faces hurdles like limited job creation in manufacturing, underinvestment in human capital, and low levels of innovation compared to advanced economies, which could impede its progress toward high-income status.

o **Potential to escape**; India has the potential to avoid the trap if it focuses on policies that promote technological innovation, improves infrastructure, fosters skill development, and boosts productivity in key sectors

■ Upper middle income ■ High income ■ Lower middle income ■ Low income ■ NA

Source: World Bank Official Boundaries

CHALLENGES FACED BY INDIA

▼ **Increasing Power of Billionaires:** The growing influence of billionaires in the Indian economy raises concerns about unequal power dynamics and their proximity to the state, which may hinder equitable economic growth.

▼ **Stagnation of the Manufacturing Sector:** A stagnating manufacturing sector and a reversal of structural transformation lead to increased employment in low-productive agriculture, hampering overall economic advancement.

▼ **Discrepancy Between GDP Growth and Wage Growth**: Despite reported GDP growth of around 7%, real wage growth remains stagnant, with nominal wages lagging behind inflation, resulting in diminished purchasing power for workers.

▼ **Low Real Wage Growth:** The lack of real wage growth among workers limits consumption demand, which is critical for sustaining economic momentum and escaping the middle-income trap.

▼ **Democratic Erosion:** Historical examples from South Korea and Chile highlight the dangers of sacrificing democratic values for rapid economic growth, emphasising the need to maintain democratic principles while pursuing development.

▼ **Balancing State Intervention with Democracy:** Policymakers face the challenge of promoting effective state intervention to stimulate growth without compromising the sanctity of democratic governance and the rights of workers.

▼ **Weak Labour Rights:** The potential quelling of labour unions to facilitate capital accumulation poses risks to worker rights and can exacerbate inequalities, hindering inclusive growth**.**

▼ **Sustainability of Growth Models:** Reliance on growth strategies that undermine democratic institutions raises concerns about the long-term sustainability of economic development and social stability.

WAY FORWARD

- **Adopt the "3i" Approach:** Countries should adopt a sequenced approach based on their development stage:
  - » **Low-Income Countries:** Focus on policies designed to increase **investment** (1i approach).
  - » **Lower-Middle-Income Countries:** Expand the policy mix to include both **investment and the infusion of new technologies** (2i approach).
  - » **Upper-Middle-Income Countries:** Shift to a comprehensive strategy that integrates **investment, infusion, and innovation** (3i approach) to sustain growth and transition to high-income status.

- **Neutral State Intervention:** The Indian government should adopt a neutral stance towards private enterprises, focusing on fair competition and merit-based support.

- **Performance-Based State Support:** Implement a framework for state support that is contingent on firm performance, encouraging efficiency and accountability in business operations.

- **Encouragement of Innovation:** Promote policies that incentivize innovation and technology adoption among businesses, ensuring they remain competitive in a global market.

- **Support for Investment from Business Houses:** Encourage major business groups to invest in R&D and new technologies, fostering a culture of innovation similar to the South Korean chaebols.

- **Sector-Specific Strategies:** Develop targeted strategies for key sectors (like technology, manufacturing, and natural resources) to maximise growth potential and resource efficiency.

- **Focus on Export-Driven Growth:** Emphasise the importance of an export-driven growth model, similar to South Korea, to enhance foreign exchange earnings and economic resilience.

- **Capacity Building for Local Industries:** Invest in capacity building and skill development to ensure local industries can compete globally and adopt new technologies effectively.

GLOBAL EXAMPLES

- **European Union Member States:** Many countries that successfully transitioned from middle-income to high-income status were part of the EU.
  - o The EU facilitated growth through **free mobility of capital and labour**, providing a supportive institutional framework.

- **South Korea:** The South Korean state adopted a heavily **interventionist approach**, directing private sector activities towards an export-driven growth model.
  - o Successful companies were incentivized with access to new technologies, while underperforming firms were allowed to fail, promoting accountability and innovation.
  - o The government's strategy **disciplined local elites** and ensured alignment with national economic goals, leading to the **rise of innovative chaebols**.
  - o Achieved remarkable economic growth, with **per capita income rising** from **$1,200 in 1960 to $33,000 in 2023**.

- **Chile**: Escaped the middle-income trap through **targeted state intervention** in key sectors, particularly natural resources.
  - o The **success of the salmon industry in Chile** was largely due to the government's strategic support across various fronts, fostering a thriving export market.

- **Colombia:** Focused on **increasing investment** to elevate its economic status by implementing reforms such as limiting government spending, introducing a floating exchange rate, and enhancing central bank independence in 2001.

MAKE IN INDIA ANALYSIS

- **About:** The Make in India (MI) policy, **launched on September 25, 2014,** aimed to **elevate the manufacturing sector's GDP share from 14-15% to 25% and create 100 million new industrial jobs by 2025**.

  o Despite India's impressive real GDP growth of 7-8% in the preceding decade, the manufacturing sector struggled with modest performance, increased net imports, and limited job expansion.

- **Policy Outcomes:**

  o **Slowdown in Manufacturing Growth:** The real gross value added (GVA) growth rate of the manufacturing sector has declined from 8.1% (2001-2012) to 5.5% (2012-2023), indicating a significant slowdown in manufacturing performance.

  - **Gross Value Added (GVA)** is a measure of the value of goods and services produced in an economy, calculated by subtracting the cost of intermediate goods from the total output.

  o **Stagnant GDP Share**: The manufacturing sector's share in GDP has remained stagnant at around 15%-17% over the past three decades, showing little progress towards the goal of raising it to 25%.

  - **Gross Domestic Product (GDP)** is the total monetary value of all finished goods and services produced within a country's borders in a specific time period, reflecting the overall economic performance

  o **Decline in Manufacturing Employment:** Manufacturing employment has decreased from 12.6% in 2011-12 to 11.4% in 2022-23, with informal sector employment declining by 8.2 million, from 38.8 million in 2015-16 to 30.6 million by 2022-23.

  o **Reversal of Structural Transformation:** There has been an unprecedented shift from higher productivity manufacturing jobs to lower productivity agricultural employment, with **agriculture's share in the workforce increasing from 42.5% in 2018-19 to 45.8% in 2022-23**, indicating premature de-industrialisation.

  o **Collapse of Fixed Investment Growth**: The growth rate of gross fixed capital formation (GFCF) has effectively stagnated, contributing to the overall decline in industrial production despite an official GDP growth rate of 6%-7% annually.

  - **Gross Fixed Capital Formation (GFCF)** represents the net increase in physical assets (investment in fixed assets like buildings and machinery) within an economy over a specified period, excluding depreciation

  o **Rising Imports**: The demand that could have been met by domestic production is largely satisfied by imports, especially from China, contributing to a significant trade imbalance.

  o **Flawed Ease of Doing Business Index**: Despite improvements in India's ranking in the World Bank's Ease of Doing Business index, domestic investments did not grow under the Make in India initiative, highlighting that the index may not reflect real investment conditions.

- **Way Forward:**

  o **Need for Reformed Industrial Policy**: To reverse de-industrialisation, there is a critical need to reimagine industrial policy to better align trade and industrial strategies, emphasising domestic value addition, technology adoption, and protective measures that foster dynamic comparative advantages.

CONCLUSION

In conclusion, addressing the middle-income trap requires a **multifaceted approach that emphasises investment, the infusion of new technologies, and fostering domestic innovation.** Countries that have successfully navigated this challenge demonstrate the importance of **strong state intervention and strategic policies** that prioritise sustainable growth. For India, recognizing the lessons from global examples and adapting them to its unique context will be crucial in achieving higher income status while ensuring equitable benefits for its workforce.

SAMPLE QUESTION

Q) Discuss the implications of the middle-income trap for India's economic development and the strategies that can be adopted to overcome it. **(10 marks)(150 words)**

VEGETATION IN ANTARCTICA

Syllabus: GS III - Environmental Conservation

PYQ MAPPING

Q) *'Climate Change' is a global problem. How will India be affected by climate change? How Himalayan and coastal states of India are affected by climate change?* **(2017)**

Q) *How do the melting of the Arctic ice and glaciers of the Antarctic differently affect the weather patterns and human activities on the Earth? Explain.* **(2021)**

WHY IN NEWS

A recent analysis, based on satellite imagery and data, has revealed that the vegetation cover on the Antarctic Peninsula has expanded 14-fold over the past 35 years.

INTRODUCTION

A new study published in *Nature Geoscience* highlights a significant environmental change occurring in the Antarctic Peninsula (AP), a long mountainous extension of Antarctica that points north towards South America, where rising temperatures have led to a dramatic increase in plant cover, expanding more than tenfold over the past few decades. This finding underscores the profound impact of climate change on one of the planet's most remote and extreme ecosystems.

RESEARCH OVERVIEW

➡ Study conducted by researchers at the **universities of Exeter and Hertfordshire in England, and the British Antarctic Survey.**

➡ **According to the study,** vegetation in the Antarctic Peninsula has increased **14-fold** over the last 35 years.

  o In 1986, mosses and lichen covered less than 1 square kilometre of the roughly 500,000-square-kilometre peninsula. By 2021, this vegetation had spread to nearly 12 square kilometres.

  o Additionally, the rate of greening accelerated by more than 30% between 2016 and 2021.

REASONS

◉ **Warming Temperatures**

  o A 2023 study published in the journal *Nature Climate Change* found that the continent is **warming twice as fast as the global average**, at a rate of between 0.22 degrees Celsius and 0.32 degrees Celsius per decade currently.

  o The situation in the Antarctic Peninsula is worse than in the rest of Antarctica, it is warming five times faster than the global average.

    • The Antarctic Peninsula is now almost 3 degrees Celsius warmer on average than in 1950.
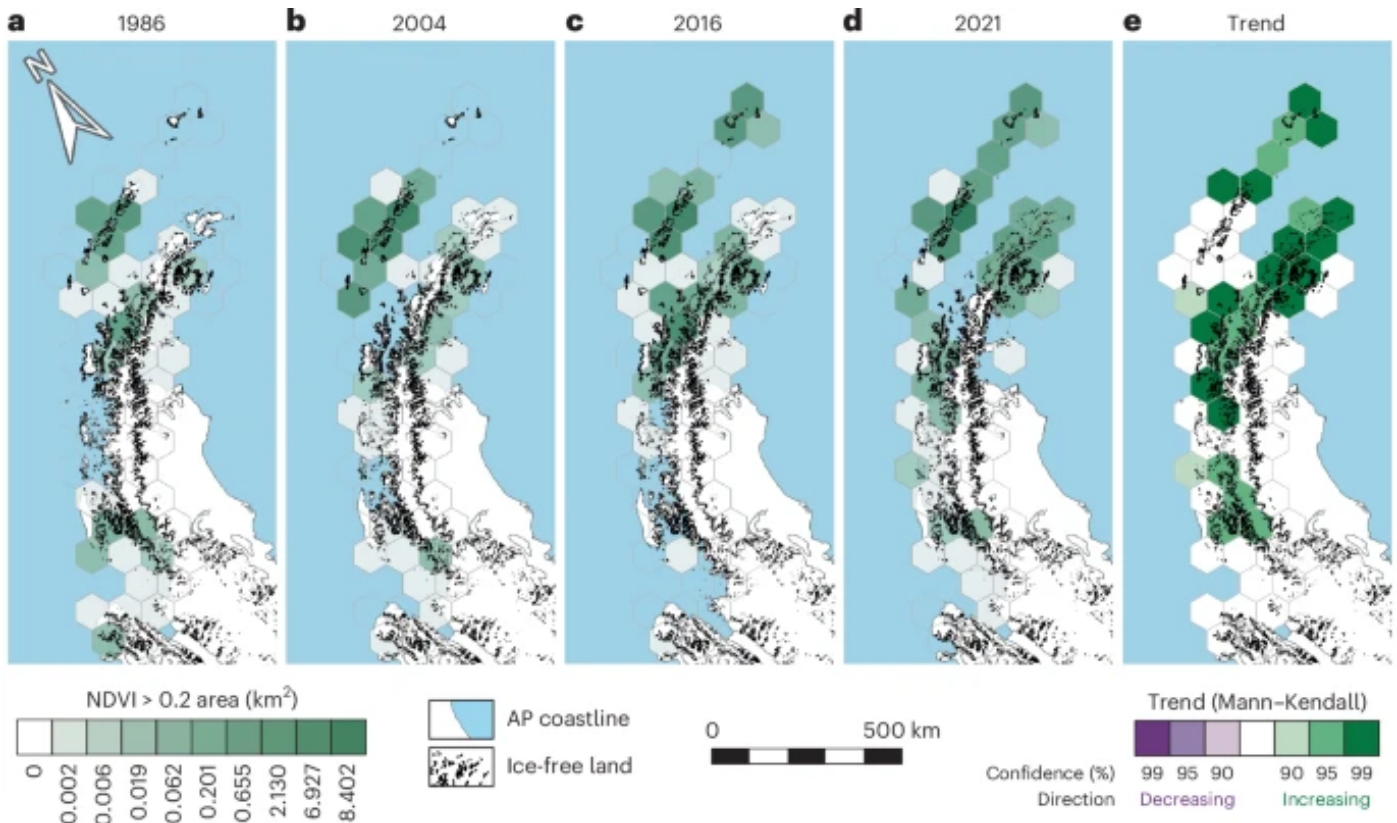
Heat waves:

o Antarctica has been experiencing record-breaking heatwaves, especially during its winter season.

- In July this year, ground temperatures were about 10°C higher than usual, with some days reaching up to 28°C above normal.

- In March 2022, East Antarctica saw its most extreme heatwave, with temperatures soaring 39°C above average.

Thawing Permafrost

o As permafrost (permanently frozen ground) thaws, soil becomes more accessible to plant roots. This creates a more favourable environment for plants to grow, as it allows nutrients and water to become available.

IMPLICATIONS OF INCREASE IN VEGETATION

♣ **Mosses and Soil Formation**:

o Mosses are able to colonise bare rock, forming the foundation for soil creation.

o As the climate warms, this could make parts of Antarctica more suitable for other species, particularly invasive ones, which may pose a threat to native flora and fauna.

♣ **Risk of Invasive Species**:

o Research highlights that increased plant life will contribute to soil formation, which raises the risk of non-native and invasive species.

o These species could potentially be introduced by eco-tourists, scientists, or other visitors, threatening the fragile Antarctic ecosystem.

♣ **Albedo Effect**:

o The increase in vegetation could reduce the Antarctic Peninsula's albedo, or its ability to reflect sunlight.

o A darker, plant-covered surface absorbs more solar energy, further warming the ground and potentially exacerbating local and global temperature rises.

♣ **Loss of Ice Mass**:

o Antarctica has been losing ice at an accelerated rate. From the 2000s and 2010s, ice loss increased by 280% compared to the 1980s and 1990s.

o Rising temperatures are expected to worsen ice loss, contributing to rising global sea levels.

♣ **Impact of Greenhouse Gases**:

o As greenhouse gas levels continue to rise due to the burning of fossil fuels, Antarctica is expected to experience further warming.

o This will likely lead to an increase in vegetation, which could have further impacts on the continent's ecology and contribute to global climate changes.

WAY FORWARD

* **Strengthen Global Climate Action**
  * **Reduce greenhouse gas emissions**: Accelerate global efforts to cut CO2 and other emissions, which drive Antarctic warming.
  * This includes expanding renewable energy use and adhering to international climate agreements like the Paris Agreement.

* **Enhance Antarctic Research and Monitoring**
  * **Long-term monitoring**: Expand scientific research to better understand the ecological changes and track vegetation growth, ice melt, and permafrost thaw. Use satellites, remote sensors, and field stations to collect critical climate data.
  * **Predictive modelling**: Invest in climate models to forecast how Antarctic warming will impact global weather patterns, sea levels, and ecosystems.

* **Public Awareness and Education**
  * **Increase global awareness**: Promote the importance of Antarctica's role in regulating global climate systems. Encourage public engagement with scientific research and conservation efforts.

  * **Climate education**: Expand education about the impacts of climate change on polar regions to encourage global support for climate action.

* **International Collaboration**
  * **Global partnerships**: Encourage international cooperation in research, conservation, and policymaking related to Antarctica. Collaboration is vital for tackling the global consequences of Antarctic changes, such as rising sea levels.
  * **Share data and innovations**: Foster global sharing of climate research and innovations in mitigation technologies.

* **Marine Protected Areas (MPAs):**
  * Establishing and expanding a network of well-managed MPAs in the surrounding waters to protect critical habitats and vulnerable marine species.
  * Implementing adaptive management strategies within MPAs to adjust regulations based on new scientific findings.

CONCLUSION

With temperatures in the Antarctic Peninsula projected to increase by 0.5 to 1.5°C by 2044, as indicated by the 2021 *Climate Dynamics* study, significant environmental changes are likely to accelerate. These findings highlight the urgent need for robust climate action, increased research, and adaptive conservation measures to mitigate the effects of this warming and protect the region's fragile ecosystems.

SAMPLE QUESTION

Q) How does the increase in vegetation on the Antarctic Peninsula, driven by rising temperatures and glacial melt, contribute to global climate change and ecological disruptions in the region? **(10 marks)(150 words)**

CLASSICAL LANGUAGES

Syllabus: GS I - Indian Culture, Diversity of India

PYQ MAPPING

Q) Though not very useful from the point of view of a connected political history of South India, the Sangam literature portrays the social and economic conditions of its time with remarkable vividness. Comment **(2013)**

SHORT TAKES

Linguistics Expert Committee(LEC): The Ministry of Culture established the Linguistic Experts Committee (LEC) on November 1, 2004, to assess proposals for the recognition of classical languages. The committee comprises representatives from the Union Ministries of Home and Culture, along with four or five linguistic experts. It is chaired by the President of the Sahitya Akademi.

WHY IN NEWS

On October 3, 2024, the Union Cabinet granted classical language status to **Marathi, along with Assamese, Bengali, Pali, and Prakrit**. This decision comes after an 11-year-long demand to include Marathi in the list of India's classical languages, recognizing its rich linguistic heritage.

INTRODUCTION

The **recognition of classical languages in India** highlights the nation's rich linguistic heritage and cultural diversity. These languages, with their extensive historical significance and literary traditions, play a vital role in **preserving the intellectual and cultural fabric of Indian society**. These designations underscore the importance of nurturing and promoting these languages for future generations.

WHAT IS CLASSICAL LANGUAGE?

The term Indian classical languages refers to a group of languages that have a long history and a rich, unique, and distinctive literary legacy The designation of a language as classical acknowledges its historical significance and its crucial role in preserving India's ancient knowledge systems and cultural heritage.

CRITERIA FOR DECLARING A CLASSICAL LANGUAGE

Year	Criteria
2004	• High antiquity of its early texts/ recorded history **over a 1000 years**. • A **body of ancient literature/ texts**, which is considered a valuable heritage by generations of speakers. • The literary tradition must be **original and not borrowed** from another speech community.
2005	• High antiquity of its early texts/recorded history over a period of **1500-2000 years**. • A body of ancient literature/texts, which is considered a valuable heritage by generations of speakers. • The literary tradition must be original and not borrowed from another speech community. • The classical language and literature being distinct from modern, there **may also be a discontinuity between the classical language and its later forms** or its offshoots.
2024	• High antiquity of its early texts/recorded history over a period of 1500- 2000 years. • A body of ancient literature/texts, which is considered a heritage by generations of speakers. • **Knowledge texts**, especially prose texts in addition to poetry, epigraphical and inscriptional evidence. • The Classical Languages and literature could be distinct from its current form or could be discontinuous with later forms of its offshoots.

TIMELINE OF CLASSICAL LANGUAGE STATUS IN INDIA

➤ **October 12, 2004:** Tamil was notified as the first classical language in India.

➤ **November 2004:** The Ministry of Culture set up a **Linguistic Experts Committee (LEC)** under the Sahitya Akademi to examine proposals for granting classical language status.

➤ **November 25, 2005:** Criteria for classical languages were revised, pushing back the antiquity requirement to 1,500-2,000 years.

   » Sanskrit was declared a classical language.

➤ **October 31, 2008:** Telugu and Kannada were granted classical language status.

➤ **August 8, 2013:** Malayalam received classical language status.

➤ **March 1, 2014:** Odia was recognized as a classical language.

➤ **October 3, 2024:** Marathi, along with Assamese, Bengali, Pali, and Prakrit, were added to the list of classical languages after a long-standing demand.

CULTURAL AND HISTORICAL SIGNIFICANCE OF RECENT ADDITIONS

Marathi

- **Delayed Proposal**: The inclusion of Marathi comes after a decade-long proposal, first forwarded to the Centre by the Maharashtra government in 2013 and this decision comes just weeks before the state Assembly elections.

- **Historical Roots**: Modern Marathi descends from **Maharashtri Prakrit**, which served as the official language during the **Satavahana dynasty**.

- **Earliest Evidence**: The oldest evidence of Maharashtri Prakrit is a stone inscription in Pune, dating to the 1st century BCE, while modern Marathi can be traced back to a copper-plate inscription in Satara from 739 CE.

Bengali & Assamese

- **Demand for Status**: The state governments of West Bengal and Assam had also sought classical status for their respective languages.

- **Common Origin**: Both languages originate from **Magadhi Prakrit**, once popular in East India and the official language of the Magadha court.

- **Contested Dates**: Scholars debate their emergence, suggesting origins ranging from the **6th to the 12th centuries,** with recognizable forms developing into the second millennium CE.

- **Linguistic Differentiation**: Renowned linguist Suniti Kumar Chatterji noted that the Indo-Aryan vernacular likely differentiated in Assam before evolving in Bengal.

Prakrit & Pali

- **Group of Languages**: Prakrit refers to a group of closely-related Indo-Aryan languages, distinct from Sanskrit, which was used by elites.

- **Language of the Masses**: By the time of Buddha, simpler languages (Prakrits) were spoken by the masses, reflecting the social structure of the time.

- **Vernacular Importance**: These languages were integral to **popular heterodox religions that emerged in the first millennium BCE**.

- **Religious Texts**: Jain Agamas and the Gatha Saptashati were composed in **Ardhamagadhi**, a significant Prakrit dialect with religious relevance.

- **Pali's Significance**: Pali, derived from a Sanskritized form of Magadhi Prakrit, is associated with the **Theravada Buddhist Canon and is considered the language of the Buddha,** enduring in regions like Sri Lanka, Myanmar, and Thailand

BENEFITS OF CLASSICAL LANGUAGE DESIGNATION

☼ **Cultural and Academic Impact:** The designation enhances the cultural and academic prominence of these languages nationally and internationally.

☼ **Promotion by the Ministry of Education:**

o **International Awards**: Two major annual international awards are given to eminent scholars for their contributions to the said classical language.

o **Centre of Excellence**: A Centre of Excellence is established for studies and research in the classical language.

o **Creation of Professional Chairs**: The University Grants Commission (UGC) requests Central Universities to create professional chairs for the classical language.

o **Establishment of Educational Institutions:** Three Central Universities were set up in 2020 to promote Sanskrit, while the Central Institute of Classical Tamil (established in 2008) and Centres of Excellence for Kannada, Telugu, Malayalam, and Odia offer focused academic initiatives.

☼ **National Education Policy (NEP) Involvement:** The NEP includes the promotion of classical languages in school curricula, ensuring wider recognition and inclusion in the education system.

☼ **Collaboration for Knowledge-Sharing:** The Ministry of Culture, the Ministry of Education, and state governments collaborate to encourage research and knowledge-sharing in classical languages.

☼ **Digitisation of Manuscripts:** Classical manuscripts will be digitised to make them more accessible to scholars and promote further research.

☼ **Preservation and Documentation:** It encourages the preservation and documentation of ancient texts in the classical language.

WAY FORWARD

✳ **Enhanced Educational Curriculum:** Develop specialised courses in universities and colleges focused on classical languages, literature, and linguistics.

✳ **Support for Linguistic Research:**

o Encourage linguistic research to explore the evolution, dialects, and historical contexts of classical languages.

o Provide incentives for scholars to publish research on classical languages, contributing to the broader academic discourse.

✳ **Promotion of Cultural Activities:**

o Organise festivals, seminars, and workshops celebrating classical languages and their literature to raise awareness and interest.

o Encourage local cultural institutions and organisations to promote classical languages through performances, storytelling, and exhibitions.

✳ **Public Awareness Campaigns:**

o Launch awareness campaigns highlighting the significance of classical languages in India's cultural heritage and identity.

o Utilize social media and other digital platforms to engage younger audiences in discussions about classical languages and their relevance today.

✳ **Community Engagement:** Involve local communities in the preservation and promotion of their linguistic heritage through grassroots initiatives.

CONCLUSION

The designation of classical languages not only acknowledges their historical and cultural importance but also paves the way for enhanced academic focus and research opportunities. By promoting these languages through educational initiatives and collaborations, India can ensure the preservation of its diverse linguistic heritage. Ultimately, this effort fosters a deeper appreciation for the contributions of classical languages to the nation's identity and intellectual legacy.

SAMPLE QUESTION

Q) Analyse the significance of classical languages in shaping India's national identity and fostering a sense of unity in diversity. **(10 marks)(150 words)**
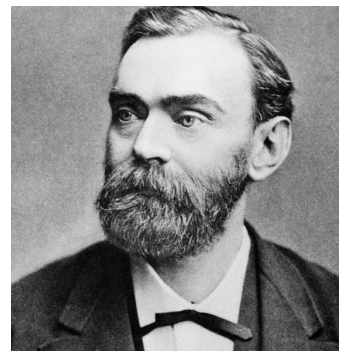
NOBEL PRIZE 2024

➡ Upon the death of inventor and businessman **Alfred Nobel,** his will specified that his fortune should reward those who **"conferred the greatest benefit to humankind**."

➡ The Nobel Prizes were established to honour significant achievements in **physics, chemistry, physiology or medicine, literature, and peace,** with the first awards given in 1901.

➡ Alfred Nobel's will specified who should award the Nobel Prizes:

1. **Royal Swedish Academy of Sciences**: Physics and Chemistry.

2. **Karolinska Institute**: Physiology or Medicine.

3. **Swedish Academy**: Literature.

4. **Norwegian Parliament Committee**: Peace.

➡ In 1969, the **Sveriges Riksbank Prize in Economic Sciences** in Memory of Alfred Nobel was introduced to commemorate the tercentenary of Sweden's central bank.

➡ Each October, the new Nobel Prizes and laureates are announced.

➡ The Prize Ceremony is held in Stockholm, Sweden, in December every year.

  o The Peace Prize is not awarded at the Stockholm ceremony but presented annually in Oslo, Norway, on the same day.

➡ Each Nobel laureate receives a gold medal, a diploma, and a monetary award.

➡ Nobel Prize cannot be given posthumously (after death). Also, up to 3 people can share a Nobel Prize award between them.

ALFRED NOBEL

➤ He was born on October 21, 1833, in Stockholm, Sweden. He was a chemist, engineer, inventor, and philanthropist best known for inventing dynamite.

➤ Despite his success and wealth, Nobel was deeply concerned about the impact of his inventions on warfare and humanity.

➤ He held over 350 patents and was a man of varied interests, including literature and science.

➤ His inventions significantly advanced construction and demolition techniques but also facilitated more destructive uses in warfare.

NOBEL PRIZE IN PHYSICS 2024

For foundational discoveries and inventions that enable machine learning with artificial neural networks
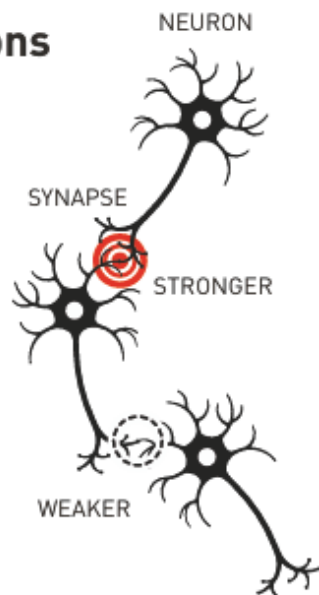
JOHN HOPFIELD

GEOFFREY HINTON

- Though computers can't think, they can mimic memory and learning.

- This year's physics laureates helped develop technologies using network structures to process information, applying physics principles.

- Machine learning, a type of AI, allows computers to learn from data rather than follow fixed instructions, enabling them to solve complex problems.

- An example of this difference is in image recognition. Traditional software would need specific rules to identify features like shapes and colours in an image. In contrast, machine learning allows a model to learn by being shown many labelled examples of images, such as pictures of cats. Over time, the model "learns" to recognize a cat in new images, even without explicit rules or instructions.

HOPFIELD'S CONTRIBUTIONS: MIMICKING THE BRAIN WITH NEURAL NETWORKS

➡ A neural network or Artificial Neural Network (ANN) is a type of machine learning model inspired by the human brain.

➡ It consists of layers of interconnected nodes (neurons) that process data by passing it through various layers.

➡ Each neuron takes input, applies weights, and activates based on a function, helping the network identify patterns, make predictions, or classify information.

➡ ANN is widely used in tasks like image recognition, language processing, and predictive modelling.
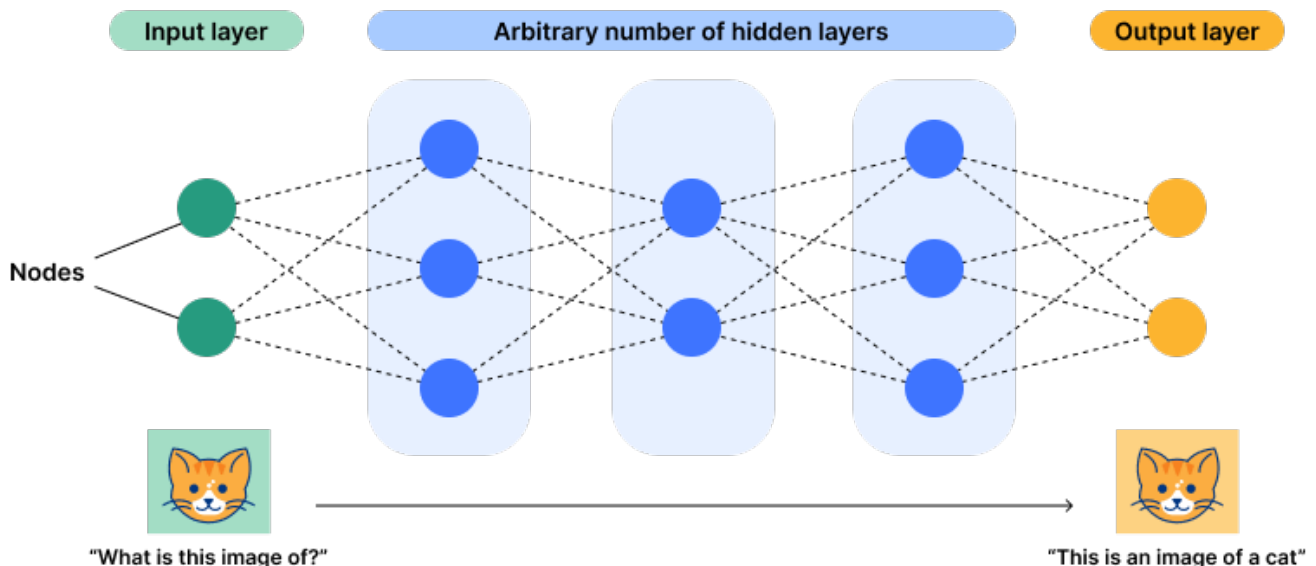

Natural and artificial neurons

The brain's neural network is built from living cells, neurons, with advanced internal machinery. They can send signals to each other through the synapses. When we learn things, the connections between some neurons get stronger, while others get weaker.

Artificial neural networks are built from nodes that are coded with a value. The nodes are connected to each other and, when the network is trained, the connections between nodes that are active at the same time get stronger, otherwise they get weaker.

Neural network

Input layer

Arbitrary number of hidden layers

Output layer

Nodes

"What is this image of?"

"This is an image of a cat"

John Hopfield's main contribution to neural networks was creating the **Hopfield network**, a model that mimics how human memory works.

➡ This **recurrent neural network model** can store patterns and recall them even when the input is incomplete or noisy.

➡ Imagine trying to remember a word—if you only recall part of it, your brain can often fill in the missing pieces. This is called associative memory and Hopfield's network works the same way.

➡ Example, the neural network stores patterns of
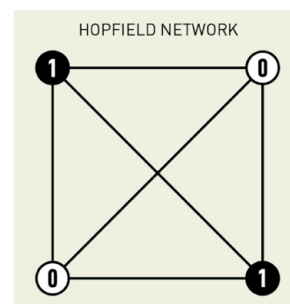
GEOFFREY HINTON'S CONTRIBUTIONS

In 1985, inspired by how children recognize objects with few examples, Geoffrey Hinton and Terrence Sejnowski developed the **Boltzmann machine**, named after the 19th century Austrian physicist who developed a statistical interpretation of the second law of thermodynamics, building on John Hopfield's work.

➡ The Boltzmann Machine can be used to **generate new data** or **recognize patterns in unseen data** by sampling from its learned distribution. The Boltzmann Machine can be considered a more advanced version of the Hopfield Network.

➡ **Boltzmann Machine Overview:** A Boltzmann machine is a type of computer model (so not a physical machine) inspired by how the brain works and operates on principles from statistical mechanics.

o This neural network model uses probabilistic methods to learn patterns from data, enabling it to generalise and recognize familiar traits in unseen examples.

o It has units, like neurons, that connect to each other and work together to learn patterns in data.

o The machine uses a random method to adjust these connections and find the best fit for the data. It's useful for solving complex problems by finding patterns without needing direct guidance. It has two distinct types of nodes: **visible nodes** and **hidden nodes**.

o **Visible Nodes**: Receive input data, representing features like image pixels.

o **Hidden Nodes**: Process underlying patterns,

MACHINE LEARNING

➢ Machine learning is a subfield of artificial intelligence (AI) that focuses on enabling computers to learn from data and experience.

shapes like a triangle, a square, and a circle. Each shape represents a specific pattern that the network will learn even from wrong predictions, and when given an incomplete or noisy version, it retrieves the closest match.

➡ He used ideas from physics, like how tiny magnets interact, to explain how groups of neurons can work together.

➡ This advancement significantly improved pattern recognition in computers, laying the groundwork for technologies such as facial recognition and image enhancement.
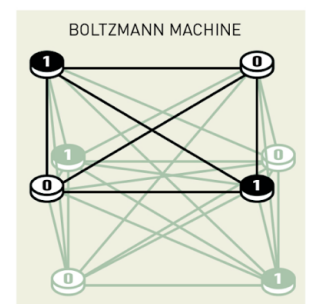
influencing the network's energy and interpretation of input.

➡ **Operation:** A Boltzmann machine is a type of artificial neural network that learns by example. It's like a machine that can recognize patterns. It's trained by showing it many examples of the patterns you want it to recognize. Over time, it learns to identify these patterns and even recognize new patterns that are similar to the ones it was trained on.

➡ Think of it like meeting a friend's sibling for the first time. You can immediately tell they're related because they share similar features. A Boltzmann machine does something similar. It can recognize a new pattern if it's similar to the ones it learned during training.

Different types of network

HOPFIELD NETWORK

John Hopfield's associative memory is built so that all the nodes are connected to each other. Information is fed in and read out from all the nodes.

BOLTZMANN MACHINE

Visible nodes   Hidden nodes

Geoffrey Hinton's Boltzmann machine is often constructed in two layers, where information is fed in and read out using a layer of *visible* nodes. They are connected to *hidden* nodes, which affect how the network functions in its entirety.

➢ Instead of being explicitly programmed for specific tasks, ML algorithms adapt and improve their performance over time by identifying patterns and making decisions based on the input data

DEEP LEARNING

➤ It is a further specialisation within Machine learning that utilises complex structures known as neural networks with multiple layers.

➤ Deep learning employs deep neural networks, which consist of many layers of interconnected nodes (neurons).

• This allows the model to automatically learn hierarchical feature representations from the data.

➤ Deep learning excels at processing unstructured data, such as images, audio, and text, often without needing labelled datasets for training.

SIGNIFICANCE

☼ **Deep Neural Networks**: Hinton's innovations in deep neural networks form the basis of modern AI systems, enabling advancements in voice recognition, image processing, and self-driving cars.

☼ **Wide-ranging Applications**: AI is now used across various sectors, including healthcare (diagnostics and treatment personalization), astronomy (data analysis), finance (fraud detection), and transportation (self-driving vehicles).

☼ **Backpropagation Technique**: Hinton's introduction of backpropagation allowed neural networks to learn from their errors, enhancing accuracy and efficiency in AI models.

☼ **Lasting Impact**: Both Hopfield and Hinton have left a lasting mark on AI and computer science, shaping technologies that continue to improve decision-making and efficiency across industries.

The contributions of Hinton and Hopfield have paved the way for the evolution of AI, making it a transformative force in today's world.

NOBEL PRIZE IN CHEMISTRY 2024

DAVID BAKER
for computational protein design

DEMIS HASSABIS
for protein structure prediction

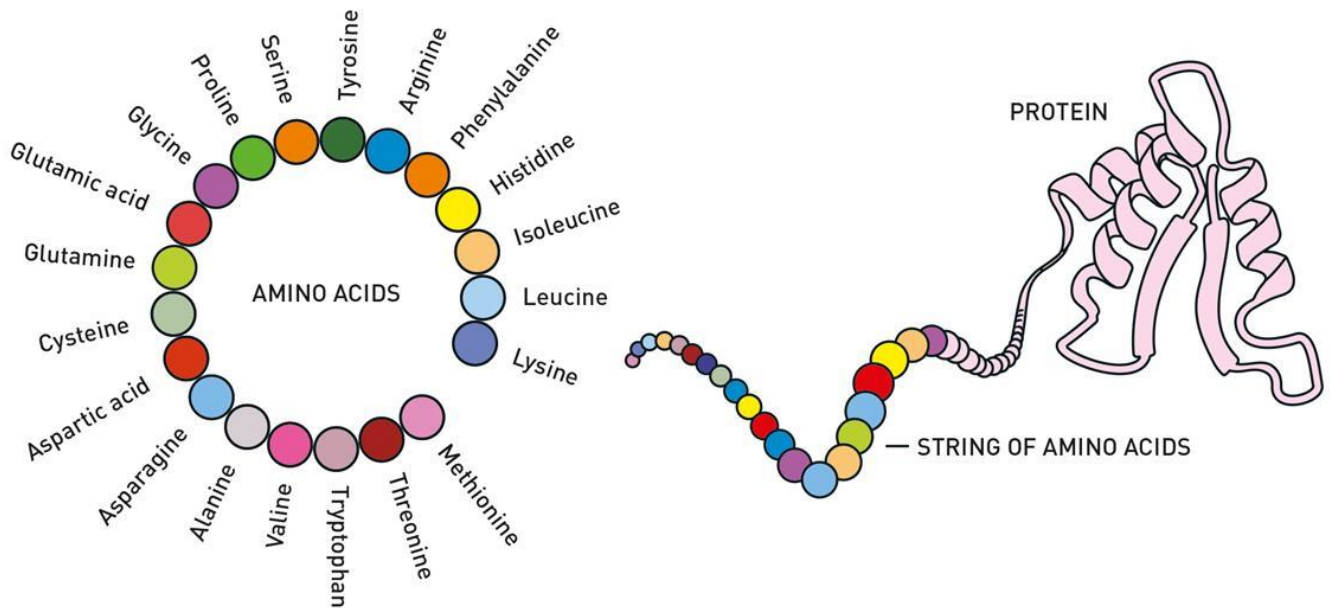### JOHN JUMPER
for protein structure prediction

THEY CRACKED THE CODE FOR PROTEINS' AMAZING STRUCTURE

• The Nobel Prize in Chemistry 2024 is about proteins, life's ingenious chemical tools. David Baker has succeeded with the almost impossible feat of building entirely new kinds of proteins.

• Demis Hassabis and John Jumper have developed an AI model to solve a 50-year-old problem: predicting proteins' complex structures. These discoveries hold enormous potential.

ABOUT

➡ Proteins are large, complex molecules that play many critical roles in the body.

➡ They are made up of smaller units called amino acids, which are linked together in long chains.

➡ There are 20 different types of amino acids, and the specific sequence in which they are arranged

determines the protein's structure and function.

➡ **In 2003, David Baker, a professor at the University of Washington**, succeeded in using these blocks to design a new protein that was unlike any other protein.

AMINO ACIDS

PROTEIN

— STRING OF AMINO ACIDS

- Proteins are large, complex molecules that play many critical roles in the body.

- They are made up of smaller units called amino acids, which are linked together in long chains.

- There are 20 different types of amino acids, and the specific sequence in which they are arranged determines the protein's structure and function.

- **In 2003, David Baker, a professor at the University of Washington**, succeeded in using these blocks to design a new protein that was unlike any other protein.

   o Since then, his research group has produced one imaginative protein creation after another.

- **In 2020, Demis Hassabis and John Jumper developed an AI model called AlphaFold2,** as part of Google's DeepMind project, that was able to predict the structure of **virtually all the 200 million proteins that researchers have identified**.
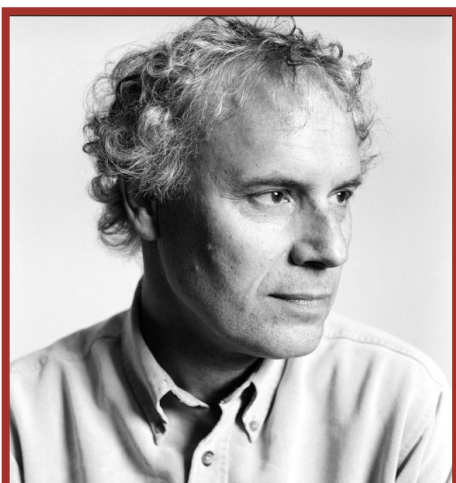
- **Significance**:

   o This achievement solved a 50-year-old problem in structural biology.

   o Traditional approaches to decoding protein structures, such as x-ray crystallography, are slow, laborious, and time-consuming.

   o It allows us to better understand how life functions, including why some diseases develop, how antibiotic resistance occurs or why some microbes can decompose plastic.
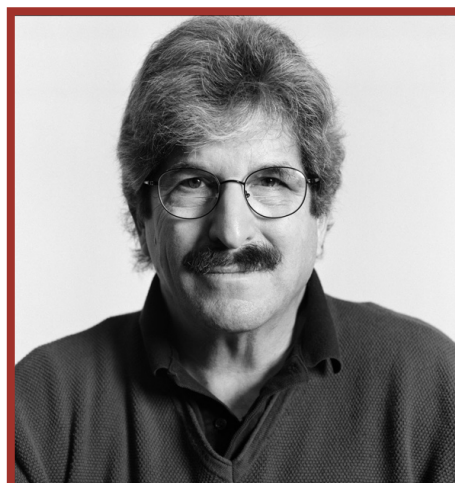
NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE 2024

For the discovery of microRNA and its role in post-transcriptional gene regulation

VICTOR AMBROS

GARY RUVKUN

TINY RNAs WITH PROFOUND PHYSIOLOGICAL IMPORTANCE

- Victor Ambros and Gary Ruvkun discovered microRNA, a new class of tiny RNA molecules that play a crucial role in gene regulation.

- Their groundbreaking discovery in the small worm C. elegans revealed a completely new principle of gene regulation.

- This turned out to be essential for multicellular organisms, including humans. MicroRNAs are proving to be fundamentally important for how organisms develop and function.

EARLY RESEARCH ON MUTANT STRAIN

➡ Ambros and Ruvkun studied mutant strains of roundworm *C. elegans* called **lin-4** and **lin-14**, which showed abnormalities in genetic programming. This led them to investigate how these genes interacted in controlling development.
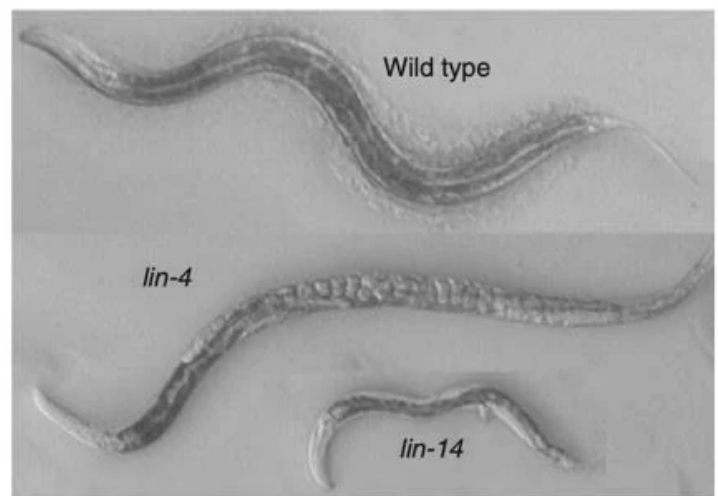
Lin - 4

It is a microRNA, identified from a study of developmental timing in the nematode *Caenorhabditis elegans*. It was the first to be discovered of the miRNAs, a class of non-coding RNAs involved in gene regulation.

Lin - 14

It is a heterochronic gene that controls the timing of developmental events in the nematode *Caenorhabditis elegans.*

Heterochronic genes are genes that control the timing of cell and tissue development in an organism.
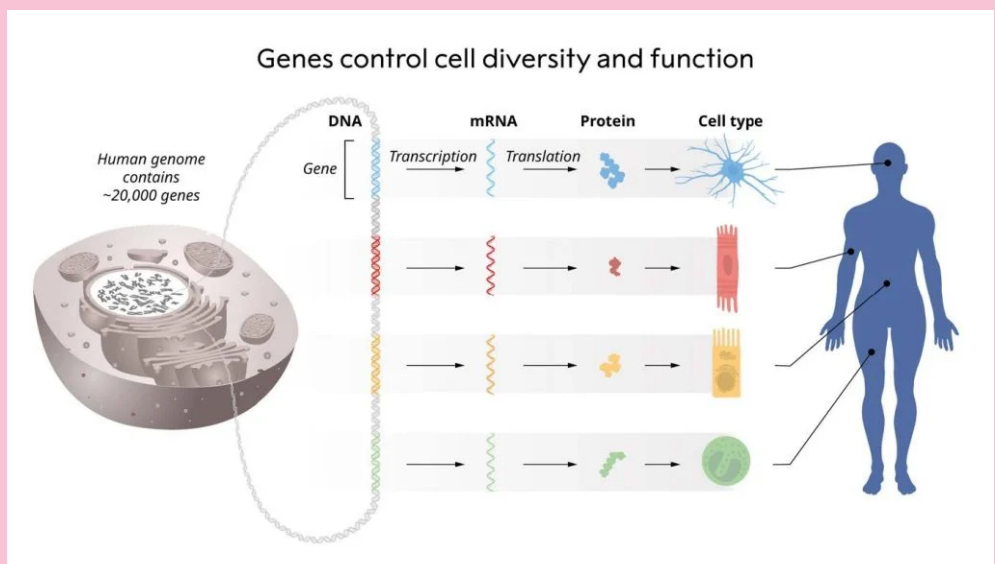

MicroRNAs (miRNAs)

It They are small RNA molecules that regulate protein production in cells. The body creates proteins through a complex process involving two key steps: **transcription** and **translation**.

- In **transcription**, a DNA sequence in the cell's nucleus is copied into messenger RNA (mRNA).

- The mRNA then leaves the nucleus and moves into the cell fluid, where it attaches to a ribosome.

- During **translation**, transfer RNA (tRNA) delivers specific amino acids to the ribosome. These amino acids are linked in the order specified by the mRNA to form the protein.

MicroRNAs regulate this process by binding to and silencing mRNA at a specific stage, preventing the production of certain proteins. This is known as **post-transcriptional gene regulation**, a mechanism that ensures protein synthesis is carefully controlled.
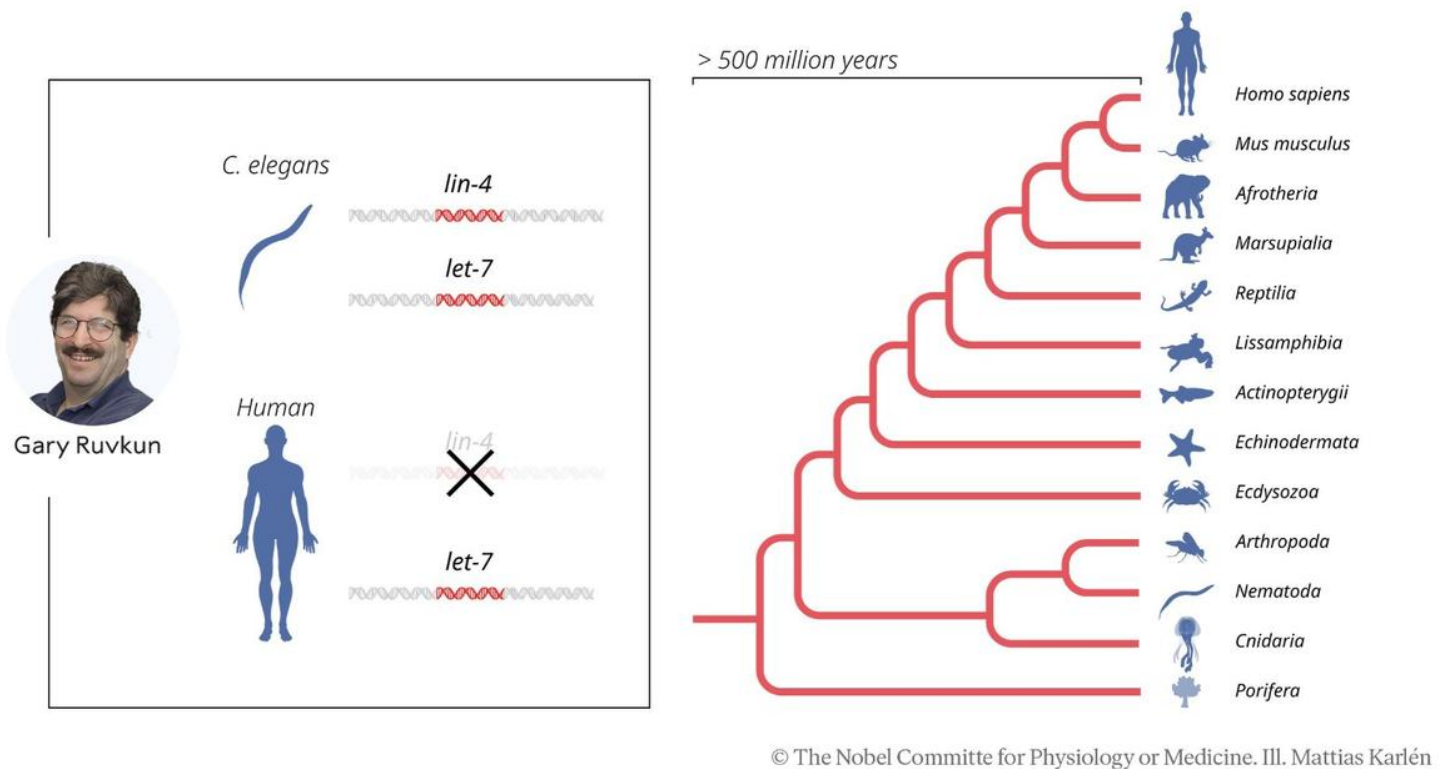
AMBROS' RESEARCH ON LIN-4

➡ Ambros discovered that **lin-4** suppressed the activity of **lin-14**, but the exact mechanism was unknown.

➡ He eventually **cloned the lin-4 gene** and found that it produced a small RNA molecule. Importantly, this RNA didn't code for any proteins, which was surprising because, at that time, most RNA was known to play a role in protein production.

➡ Ambros proposed that this small RNA might somehow regulate **lin-14**, although the details were unclear.

RUVKUNS' RESEARCH ON LIN-4

➡ Ruvkun expanded on this by showing that **lin-4 RNA didn't stop the production of lin-14 mRNA**, the messenger molecule that carries genetic information to produce proteins. Instead, it worked at a later stage by blocking the **production of the lin-14 protein**.

➡ He also found that a short sequence of lin-4 RNA was **complementary to specific regions of lin-14 mRNA**.

➡ This meant that the lin-4 microRNA could physically bind to the lin-14 mRNA and inhibit protein production.
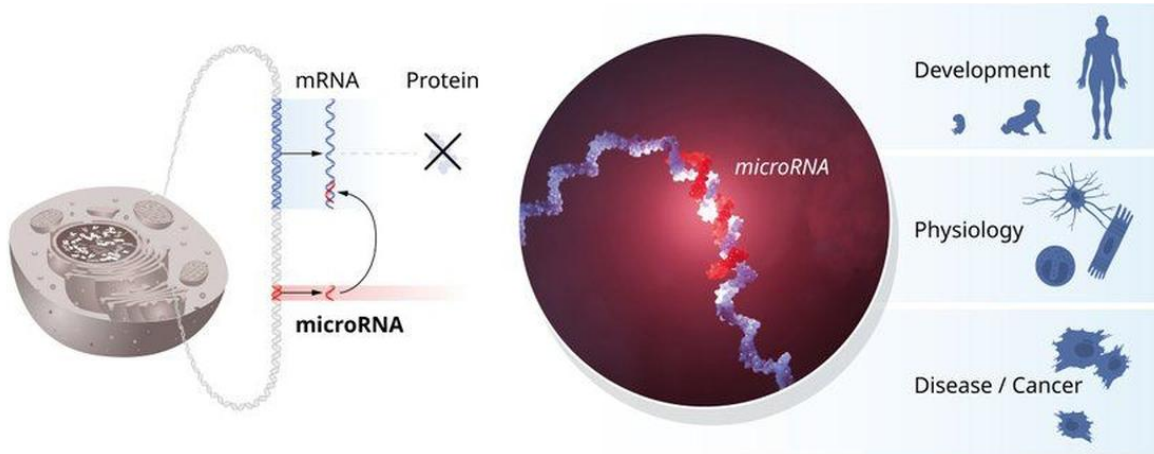
THE DISCOVERY OF MICRO-RNA

• Together, Ambros and Ruvkun showed that **lin-4 microRNA binds to lin-14 mRNA** and prevents it from making the lin-14 protein. This was the first evidence that small, non-coding RNAs could regulate gene expression by interfering with protein synthesis.

© The Nobel Committe for Physiology or Medicine. Ill. Mattias Karlén

THE BROADER SIGNIFICANCE OF MICRO-RNA

• Later, Ruvkun's group discovered another microRNA called **let-7**, which was found not only in *C. elegans* but also in many other animals, including humans. This revealed that microRNAs are **conserved across species** and play a **critical role in gene regulation**.

• Today, we know that microRNAs are abundant and influence the expression of genes across many multicellular organisms, regulating a wide range of biological processes such as development, cell differentiation, and even diseases like cancer.

NOBEL PRIZE IN LITERATURE 2024

For her intense poetic prose that confronts historical traumas and exposes the fragility of human life

HAN KANG

The Nobel Prize in Literature 2024 is awarded to the South Korean author **Han Kang, "for her intense poetic prose that confronts historical traumas and exposes the fragility of human life."**

In her oeuvre, Han Kang confronts historical traumas and invisible sets of rules and, in each of her works, exposes the fragility of human life. She has a unique awareness of the connections between body and soul, the living and the dead, and in her poetic and experimental style has become an innovator in contemporary prose.

CONTRIBUTIONS

➡ **The Vegetarian (2007):**

o This novel marked her breakthrough, and its 2015 translation by Deborah Smith earned the 2016 Man Booker International Prize.

• It tells the story of Yeong-hye, a home-maker who, one day, suddenly decides to stop eating meat after a series of dreams involving images of animal slaughter. This abstention leads her to become distanced from her family and from society.
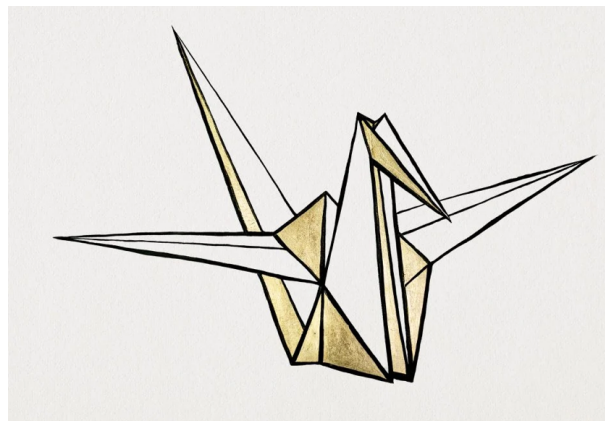
➡ **Human Acts (2016):**

o This novel delves into the 1980 Gwangju massacre, where South Korean military forces killed students and civilians during protests. It examines trauma and collective memory in a concise yet visionary way.

NOBEL PEACE PRIZE 2024

For its efforts to achieve a world free of nuclear weapons and for demonstrating through witness testimony that nuclear weapons must never be used again

NIHON HIDANKYO

A POWERFUL INTERNATIONAL NORM STIGMATISING NUCLEAR WEAPONS

➡ The grassroots movement of atomic bomb survivors from Hiroshima and Nagasaki, also known as **Hibakusha**, is receiving the Nobel Peace Prize for its efforts to achieve a world free of nuclear weapons and for demonstrating through witness testimony that nuclear weapons must never be used again.

➡ The extraordinary efforts of Nihon Hidankyo and other representatives of the Hibakusha have contributed greatly to the establishment of a nuclear taboo.

NIHON HIDANKYO

➤ Founded on 10th August 1956, it is composed of survivors from the atomic bombings in Hiroshima and Nagasaki conducted by the United States in 1945.

➤ The survivors, referred to as "Hibakusha" or "bomb-affected people," played a pivotal role in leading the global movement aimed at abolishing nuclear weapons.

THE SVERIGES RIKSBANK PRIZE IN ECONOMIC SCIENCES IN MEMORY OF ALFRED NOBEL 2024

For studies of how institutions are formed and affect prosperity

DARON ACEMOGLU

SIMON JOHNSON

JAMES ROBINSON

THEY PROVIDED AN EXPLANATION FOR WHY SOME COUNTRIES ARE RICH AND THE OTHERS POOR

➡ This year's laureates have provided new insights into why there are such vast differences in prosperity between nations.

➡ One important explanation is persistent differences in societal institutions.

➡ By examining the various political and economic systems introduced by European colonisers, Daron Acemoglu, Simon Johnson and James Robinson have been able to demonstrate a relationship between institutions and prosperity.

➡ They have also developed theoretical tools that can explain why differences in institutions persist and how institutions can change.

The research conducted by the three economists focused on how different institutional frameworks, particularly in countries colonised by Europeans, shaped their paths to economic prosperity. Here's a breakdown of their findings:

➡ **Impact of European Settlement**

o The study found that in regions where Europeans encountered high mortality rates (due to disease, harsh conditions, etc.), they were less inclined to settle permanently.

o Instead, they tended to establish extractive institutions that prioritised resource extraction for their benefit, rather than creating systems that foster long-term economic development.

o These extractive institutions often persisted long after colonial powers left, leading to ongoing economic challenges in those regions.

➡ **Role of Institutions Over Geography and Culture**

o The economists emphasised that it is not geography or culture that primarily determines economic success; rather, it is the quality of institutions that plays a critical role in shaping

economic outcomes.

o Effective institutions can promote investment, innovation, and overall economic growth, while poor institutions can hinder development and

lead to persistent poverty.

o Thus inclusive economies saw rapid growth but extractive economies did not.

ETHICS - CASE STUDY

Q)You have been working as a district magistrate in a metropolitan city. During the summer season the city faces the development of dust storms leading to very strong winds, poor visibility and dust particulates in air. They often cause significant disruptions, such as power outages and traffic congestion, leading to confusion and difficulties for citizens. The city is highly populated with huge electricity demand and pressure on civic amenities.
a. What steps must you take in order to mitigate the problems created by these dust storms?
b. What will be your action plan in case of any such emergency?

ETHICS - EXAMPLES

1. **Social Responsibility:** The "Onathinnoru Kunjaadu" scheme, initiated by principal Dr. Vijesh V of Government Higher Secondary School Kissimum in Kerala, provides goat kids to students from economically vulnerable tribal families to help them with sustenance through goat rearing. The project aims to ease financial burdens on families, encouraging children to stay in school while contributing to their livelihoods.

2. **Determination**: Suni and the Seven Princesses, an octogenarian rap group from rural South Korea, have gained nationwide fame by performing rap songs inspired by their farming experiences and late-life learning of the Korean alphabet, hangeul. Led by 82-year-old Park Jeom-sun, their journey from learning to read to performing on national stages showcases their passion for education and active ageing.

3. **Public Service**: Ajay Grewal, a Delhi Police Head Constable, runs a free coaching centre from his terrace in Bahadurgarh, Haryana, for underprivileged government job aspirants. Despite his demanding job, he teaches nearly 10,000 students daily, both in person and through his YouTube channel, driven by his own unfulfilled UPSC dreams.

4. **Resilience**: Dipa Karmakar's retirement concludes a remarkable career in gymnastics marked by overcoming flatfoot and battling injuries that sidelined her during critical competitions. Despite these obstacles, she made history as the first Indian woman to qualify for the Olympics and achieved a gold medal at the 2024 Asian Championships.

5. **Social Justice**: The Supreme Court struck down discriminatory state prison rules that violated prisoners' rights, following a plea by journalist Sukanya Shantha. The court found that assignments like latrine cleaning for prisoners from the 'Mehtar' caste perpetuated caste divisions and reinforced social hierarchies.

6. **Bioethics**: The Delhi High Court has allowed a couple in their sixties to access their deceased son's sperm for posthumous assisted reproduction, ruling that existing laws do not prohibit such retrieval by parties other than a spouse. This ruling highlights the importance of informed consent and ethical considerations regarding the welfare of children born from such procedures.

7. **Cultural Identity:** Pantsula dance, emerging from the townships of Johannesburg during apartheid, serves as a powerful expression of identity and resistance, combining various styles to convey messages of defiance and resilience. It has evolved into a significant cultural force in South Africa, influencing youth culture, music, and streetwear while celebrating the nation's heritage.

8. **Corporate Social Responsibility**: Ratan Naval Tata, chairman emeritus of Tata Sons, passed away at 86. He was a leading philanthropist whose contributions included significant funding for healthcare initiatives such as the Tata Memorial Hospital, educational projects like the Tata Institute of Social Sciences, and efforts to provide clean drinking water through the Tata Water Mission, positively impacting millions across India.

MODEL ESSAY

"Man is the measure of all things"

Introduction

- Quote by ancient Greek philosopher Protagoras
- **Meaning**: It suggests that human beings are the ultimate judges of reality and truth, meaning that everything is understood, interpreted, or valued through human perception and experience. In other words, there is no objective reality independent of human observation.
- Highlight the subjective nature of human experience and perception- individual perspectives shape reality.

Significance

- **Role of Personal Experience:** Underscores individual experiences significantly influence perceptions of reality, leading to diverse interpretations of events, art, and ethics.
- **Eg: Vincent van Gogh's *Starry Night*** captures his personal emotional turmoil
- **Empowerment :**Empowers individuals to take charge of their beliefs, encouraging self-reflection and personal growth
- **Eg**: **Psychological therapy** often promotes this self-exploration for personal growth
- **Eg**: **Greta Thunberg's climate movement**, motivating youth globally to advocate for climate action
- **Influence on Moral Frameworks:** Human-centred values inform moral frameworks, guiding societies in determining what is considered right, just, and meaningful.
- **Eg**: **Civil Rights Movement in the U.S.** highlighted individual dignity and rights

Limitations

- **Challenges in Moral Discourse:** Disparate views can complicate ethical discussions, making it difficult to reach consensus on global issues like human rights.
- **Limitations in Pursuing Truth:** Subjectivity may hinder the pursuit of objective knowledge, as scientific inquiry often relies on empirical evidence and reproducibility.
- **Neglect of Environment:** Human-focused policies often overlook non-human needs, causing environmental harm.
- **Reductionist Thinking:** An anthropocentric view may ignore complex interconnections in ecosystems.
- **Accountability Issues:** With a focus on individual values, establishing accountability for actions becomes challenging, especially when perspectives justify harmful behaviour.

Way Forward

- Combine **subjective experiences with objective data** for a comprehensive understanding of complex issues.
- Encourage **critical thinking to question biases** and dominant narratives.
- Promote **Lifelong Learning** for refinement of beliefs.
- Promote empathy to **encourage open dialogue** among differing perspectives.
- Value diverse viewpoints to **create communities** where all voices are heard.
- Foster understanding to **reduce polarisation** and promote harmonious societies.

Conclusion

- Acknowledge the value of both subjective human experience and the need for objectivity in certain areas like science and ethics.
- Call for continued reflection and dialogue on the nature of truth, value, and human understanding.

Sample Quotes

- *Simplicity is the ultimate sophistication- Leonardo Da Vinci*
- *To improve is to change; to be perfect is to change often- Winston Churchill*
- *The two most powerful warriors are patience and time- Leo Tolstoy*

MAINS JOT DOWN

GS- I - *GEOGRAPHICAL PHENOMENA*

- In a new study published in Science Advances, University of California shows that atmospheric rivers have shifted about 6 to 10 degrees toward the two poles over the past four decades.
- The shift is due to changes in sea surface temperatures in the eastern tropical Pacific.
- **About Atmospheric Rivers:**
  - » Long, narrow bands in the atmosphere that transport most water vapour outside the tropics, crucial for replenishing water supplies.
- **Consequences of the Shift:**
  - » Subtropical Areas: Longer droughts and reduced water availability, impacting agriculture.
  - » Higher latitude regions may witness more extreme rainfall, flooding and landslides.
  - » **Arctic Impact:** More atmospheric rivers may accelerate sea-ice melting, worsening global warming and affecting wildlife.

GS- III - *POLLUTION*

- New research indicates that exposure to **Per-and polyfluoroalkyl substances** (PFAS) may harm kidney function by disrupting gut microbiota.
- **Per-and polyfluoroalkyl substances**
  - » Known as "forever chemicals" due to their persistence in the environment and the human body, breaking down very slowly.
  - » PFAS are synthetic chemicals found in everyday items like nonstick cookware, water-repellent clothing, stain-resistant fabrics and carpets, certain cosmetics, and firefighting foams.
  - » PFAS exposure has been associated with various health issues, including cardiovascular disease and cancer.
  - » Currently, three subgroups of PFAS are listed as industrial Persistent Organic Pollutants (POPs) under the Stockholm Convention.

GS- III - *DISASTER MANAGEMENT*

- The Union Ministry of Earth Sciences has approved installing an X-band radar in Wayanad, Kerala, after recent floods and landslides.
- **X-band Radar:**
  - » Uses radio waves to detect distance, velocity, and characteristics of objects.
  - » X-band: Operates at 8-12 GHz with shorter wavelengths (2-4 cm), providing high-resolution images but with a shorter range.
  - » Benefits: Monitors particle movement, aiding in landslide warnings.

GS- III - *DEFENCE*

- India has launched INS Samarthak, its first indigenous multi-purpose vessel.
- **INS Samarthak:**
  - » It is a highly specialised, multi-role platform envisaged to be a trial platform for the development of next generation weapons and sensors for the Indian Navy.
  - » Built by Larsen & Toubro (L&T), with a top speed of 15 knots.
  - » Its roles include target launch/recovery, maritime patrol, humanitarian aid, and combating sea pollution.

GS- III - *AGRICULTURE*

- The Union Cabinet has approved new Minimum Support Prices (MSP) for Rabi crops for the 2025-26 marketing season.
- The MSP for wheat has been increased by ₹150 per quintal to ₹2,425, mustard by ₹300 to ₹5,950, and chana by ₹210, bringing the new rate to ₹5,650 per quintal.

GS- I - IMPORTANT PERSONALITIES

➡️ The **World Students' Day** was observed on October 15 to honour **Dr. A.P.J. Abdul Kalam's c**ontributions to education.

➡️ **About**:

» Born: October 15, 1931, in Rameswaram, Tamil Nadu.

» 11th President of India, dedicated to transforming India into a developed nation by 2020.

➡️ **Key Contributions:**

» Project Director: Developed India's first indigenous Satellite Launch Vehicle (SLV-III), successfully launching Rohini in 1980.

» Missile Man of India: Led the Integrated Guided Missile Development Programme at DRDO.

» Rural Development: Proposed the PURA strategy (Providing Urban Amenities to Rural Areas).

➡️ **Major Works:** Wings of Fire, India 2020, Ignited Minds.

GS- III - *ENVIRONMENTAL CONSERVATION*

➡️ The Union Minister inaugurated India's first Demonstration Facility for Biopolymers in Jejuri, Pune, Maharashtra. This initiative focuses on developing indigenous technology for producing **Polylactic Acid (PLA) bioplastics**.

➡️ **About Biopolymers:**

» Biopolymers are materials derived from biological sources like fats, vegetable oils, and sugars.

➡️ **Advantages over Synthetic Polymers:**

» Biodegradation: Easily decomposed by soil bacteria.

» Carbon Neutrality: The CO_2 released during degradation can be reabsorbed by crops grown to replace them.

GS- II - INTERNATIONAL RELATIONS

➡️ The United Kingdom, a member of the **Five Eyes Alliance**, has recently expressed support for Canada in its diplomatic crisis with India.

➡️ **Five Eyes (FVEY) Alliance:**

» A multilateral intelligence-sharing network involving over 20 agencies from five English-speaking countries: **Australia, Canada, New Zealand, the United Kingdom, and the United States.**

➡️ The First ASEAN-India Track 1 Cyber Policy Dialogue was recently held in Singapore.

➡️ **Track 1 Diplomacy:**

» Track 1 diplomacy refers to formal and official diplomatic interactions between governments.

» These discussions are conducted by diplomats, heads of state, and other authorised officials, with the aim of addressing and resolving issues at the government level.

➡️ The Prime Ministers of India and Lao PDR held bilateral talks on the sidelines of the East Asia Summit.

➡️ **Highlights**:

» **Restoration of Vat Phou:** The Archaeological Survey of India (ASI) will work on restoring the Vat Phou UNESCO site.

» Quick Impact Projects (QIPs) under Mekong-Ganga Cooperation:

» Preservation of the **Lao Ramayan heritage.**

» Restoration of the Wat Pakea Buddhist temple.

» Support for the shadow puppetry theatre focused on the Ramayana.

➡️ India will provide a $1 million grant for nutrition security in Lao PDR through the India-UN Development Partnership Fund, marking its first project in Southeast Asia

CHERRYPICKS OF THE WEEK

LINE OF CREDIT (LOC)

- A line of credit (LOC) is a preset borrowing limit offered by banks and financial institutions to their personal and business customers.
- It can be used at any time until the limit is reached. The limit is set by the issuer based on the borrower's creditworthiness.
- As money is repaid, it can be borrowed again in the case of an open line of credit.
- The borrower can access funds from the LOC at any time as long as they do not exceed the maximum amount (or credit limit) set in the agreement.

DRAGON DRONES

- It's a type of unmanned aerial vehicle capable of deploying thermite, a mixture of aluminium and iron oxide, recently used in the Russia-Ukraine war.
- Thermite, when ignited, triggers a self-sustaining reaction that is extremely difficult to extinguish.
- Historically used in both world wars, thermite inflicts severe, potentially fatal burns and can cause significant damage to bones when exposed to humans.

JUNK BONDS

- They are bonds that carry a higher risk of default than most bonds issued by corporations and governments.
- Junk bonds represent bonds issued by companies that are financially struggling and have a high risk of defaulting or not paying their interest payments or repaying the principal to investors.

MECHAZILLA

- SpaceX has reached a major milestone in space exploration by successfully landing its Starship rocket with the help of an innovative structure known as "Mechazilla."
  - Mechazilla is the nickname for a massive 400-ft structure designed to catch rockets.
  - It features large mechanical arms that capture the Super Heavy booster (which launches the Starship spacecraft) in mid-air as it returns to Earth.
  - This new rocket recovery method is more efficient and reusable compared to traditional landing techniques.

BUSHVELD IGNEOUS COMPLEX (BIC)

- Researchers have found l**iving microbes inside a sealed fracture of a 2-billion-year-old rock** from the Bushveld Igneous Complex (BIC) in South Africa, marking the oldest known example of living microbes in ancient rock.
  - Located in South Africa, it's a large layered igneous formation where magma cooled beneath the Earth's surface.
  - Over time, it has been tilted and eroded, covering around 66,000 square kilometres.