



DAILY CURRENT AFFAIRS 27-05-2026

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Big Island

Syllabus: GS-1: World Geography – Mapping.

Context:

- An earthquake of magnitude 6.0 recently struck near Honaunau-Napoopoo on the Big Island of Hawaii.

About Big Island

- It is the largest island in the Hawaiian archipelago.
- Hawaii is an island state of the United States located in the Pacific Ocean.
- The island covers an area of about 10,432 sq. km., larger than all the other Hawaiian Islands combined.

Major Volcanoes

The island is formed by five volcanoes:

- Kohala
- Hualālai
- Mauna Kea
- Mauna Loa
- Kīlauea

Important Features

- Mauna Loa is the quieter volcano but has the greatest mass of any mountain on Earth.
- Kīlauea is among the world's most active volcanoes and has been erupting continuously since 1983.
- The island has highly diverse climatic conditions:
 - Tropical rainforests
 - Volcanic deserts
 - Snow-capped summits

Protected Area

- Hawai'i Volcanoes National Park is located on the island.
- It is a UNESCO World Heritage Site known for active volcanic landscapes.

Map/Location Visual

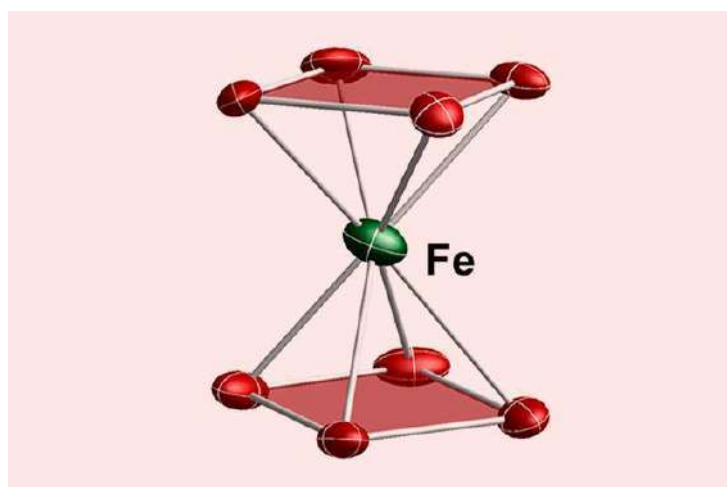


Ferrocene

Syllabus: GS-3; Science & Technology

Context

Researchers have recently synthesized a new carbon-free molecule that mimics the unique **“sandwich” structure of the well-known ferrocene molecule**, marking a major breakthrough in chemistry.



About Ferrocene

- Ferrocene is an **orange crystalline organometallic compound** with the chemical formula **$\text{Fe}(\text{C}_5\text{H}_5)_2$** .
- It was first synthesized in 1951 through the reaction of **sodium cyclopentadienide** with **iron(II) chloride**.
- The discovery of ferrocene led to the rapid development of the field of organometallic chemistry.

Key Features

- It consists of an iron atom positioned between **two flat cyclopentadienyl carbon rings**, giving it a unique “sandwich” structure.
- It is **highly stable** and appears as orange crystals with a melting point of about 174°C.
- Chemically, it behaves similarly to aromatic compounds like **benzene** and readily undergoes substitution reactions.
- Ferrocene is **soluble** in many organic solvents but **insoluble in water**.

Applications

- It is widely used in pharmaceuticals, batteries, catalysts, advanced materials, and electronics.
- Ferrocene derivatives are also important in **fuel additives and medicinal chemistry**.

Information Agents

Syllabus: GS-3; Science & Technology

Context

At its annual developer conference, **Google introduced “information agents,”** a feature planned for integration into Search to monitor and gather information from the web on behalf of users.

About Information Agents

- Information Agent refers to an **intelligent software entity that accesses and manages information from multiple distributed and diverse sources for users**.
- These agents are designed to **reduce information overload** by automatically collecting, filtering, and organizing relevant information.

Key Functions

- Conduct proactive resource discovery across different information platforms.
- Bridge the gap between **information providers and users through semantic processing.**
- Offer value-added services such as **summarization, monitoring, and personalized information delivery.**
- Access different kinds of information sources, including databases, websites, and other intelligent agents.

Example

- A user may ask an information agent to research a concept such as “**agent-oriented programming.**”
- The agent can independently search multiple online sources and return technical reports, research papers, and contact details of experts associated with the topic.

Kerala's Ageing Population Crisis

Syllabus: GS-1: Indian Geography – Population Trends.

Context:

- The government of Kerala has announced the formation of a dedicated department for elderly people — the first such initiative in India.
- Presently, elderly welfare functions under the Social Welfare Department.
- The move reflects the urgent need for geriatric governance due to Kerala's rapidly ageing population.

Kerala – India's Most Rapidly Ageing State

Demographic Transition

- Kerala is undergoing an advanced demographic transition comparable to East Asian and European countries.
- The state has the highest level of population ageing among Indian states.

Old Age Dependency Ratio (OADR)

- OADR = Number of elderly persons per 100 working-age persons.
- Increased from:
 - 19.6% (2011)

- 26.1% (2021)
- Projected 34.3% by 2031
- Implies that by 2031, nearly one in three working-age persons may support an elderly dependent.

Reasons for Rapid Ageing in Kerala

Declining Fertility Rate

- Kerala's Total Fertility Rate (TFR) is only 1.35.
- Below:
 - India's TFR: 1.9
 - Replacement level: 2.1
- Lower births reduce the share of young population.

Rising Life Expectancy

- Better healthcare has increased longevity.
- Life expectancy:
 - Women: 78.4 years
 - Men: 71.9 years
- Longer survival increases elderly population size.

Large-Scale Out-Migration

- Significant migration of working-age population to West Asia and other countries.
- Permanent settlement abroad leaves elderly parents behind.
- Return migration of retired workers from West Asia further increases elderly population.

Geographic Dimensions of Ageing

Rural Concentration

- According to the India Ageing Report 2023:
 - 17.5% of Kerala's rural population is aged 60+
 - Urban areas: 15.4%
- Working-age migration from villages leaves behind ageing rural communities.

Feminisation of Ageing

Higher Number of Elderly Women

- Elderly women significantly outnumber elderly men.
- Sex ratio among 80+ population:
 - 1,651 women per 1,000 men
- Results in:
 - Higher widowhood
 - Solitary living
 - Greater financial and social vulnerability

Existing Initiatives in Kerala

State Elderly Commission (2025)

- Quasi-judicial body for protection of senior citizens' rights and welfare.

Vayomithram

- Mobile healthcare programme providing doorstep medical services for the elderly.

Samayaprabha

- Daycare programme for senior citizens.

Kerala Care Palliative Grid

- Collaboration with Digital University Kerala.
- Network includes:
 - 1,387 government institutions
 - 1,227 NGOs
- Serves:
 - ~1.5 lakh bedridden persons
 - ~4 lakh ailing individuals

Welfare Pension Coverage

- Around 75% of elderly population covered under welfare pension schemes.

India's Broader Demographic Transition

Declining Fertility in India

- According to Sample Registration System (SRS) Statistical Report 2024:
 - India's TFR declined to 1.9.

Meaning of TFR

TFR = Average number of children born per woman during her lifetime

- Replacement level fertility:

$$TFR = 2.1$$

- TFR below 2.1 eventually leads to population ageing and slower workforce growth.

Causes of Falling Fertility Rate in India

- Rapid urbanisation reducing preference for large families.
- Improved female education leading to delayed marriage and fewer children.
- Better access to contraception and family planning.
- Rising living costs encouraging smaller families.
- Reduced infant mortality lowering the need for “insurance births”.

India’s Demographic Dividend

Meaning

- Demographic dividend refers to economic growth potential arising from a large working-age population relative to dependents.

Key Indicators

- Median age:
 - India: 29.2 years
 - China: 40.2 years
- 370–380 million youth aged 15–29.
- More than 65% population below 35 years.

Concern

- The demographic dividend window is temporary.
- India must rapidly:
 - Skill
 - Educate
 - Employits youth population before ageing accelerates.

Emerging Challenges for India

Transition Towards an Ageing Society

- India is moving from concerns of population explosion to concerns of:

- Ageing population
- Expanding elderly dependency
- Slower workforce growth

Policy Requirements

- Strengthening geriatric healthcare
- Expanding pension systems
- Labour market reforms
- Long-term social security planning
- Elderly-friendly urban infrastructure
- Migration and workforce policies

Global Examples

Countries like:

- Japan
- South Korea
- Several European countries

have already faced ageing-related economic and social challenges, highlighting the importance of early policy preparation.

Conclusion

- Kerala represents India's earliest and most advanced ageing transition.
- The state's experience offers important lessons for India's future demographic trajectory.
- India must balance:
 - utilisation of demographic dividend today, and
 - preparation for a future ageing society tomorrow.

Rupee Depreciation

Syllabus: GS-3: Indian Economy – Foreign Exchange Reserves

Context:

- Indian rupee depreciated sharply against the U.S. dollar, crossing around ₹96/\$ in May 2026 compared to nearly ₹85/\$ a year earlier.

- The issue has revived debates on:
 - Strength of India's economy
 - Sustainability of external balances
 - Role of the Reserve Bank of India in exchange-rate management

Understanding Exchange Rate Dynamics

Exchange Rate

- Exchange rate refers to the value of one currency relative to another.
- In a market-driven system, rupee value depends on demand and supply of rupees vis-à-vis foreign currencies, especially the U.S. dollar.

Factors Increasing Demand for Rupee

- **Exports of goods and services:** Foreign buyers exchange dollars for rupees to pay Indian exporters.
- **Remittances:** Money sent by Indians working abroad.
- **Foreign investments:**
 - Foreign Direct Investment (FDI)
 - Foreign Portfolio Investment (FPI)

Factors Reducing Demand for Rupee

- Imports, especially crude oil
- Foreign travel expenses
- Foreign education payments
- Capital outflows by foreign investors

Trade Deficit and Current Account Pressure

Merchandise Trade Deficit

- India consistently runs a trade deficit because imports exceed exports.
- Major imports:
 - Crude oil
 - Electronics
 - Gold
 - Industrial inputs

Invisibles Supporting Forex Earnings

India earns foreign exchange through:

- IT and software services
- Remittances
- Other invisibles

However, these inflows only partially offset merchandise trade deficit.

Current Account Deficit (CAD)

- Persistent trade deficit often results in CAD.
- CAD implies:
 - More rupees exchanged for dollars
 - Higher demand for dollars
 - Depreciation of rupee

Role of Capital Flows

Sources Financing CAD

India finances CAD mainly through:

- Foreign Direct Investment (FDI)
- Foreign Portfolio Investment (FPI)
- External commercial borrowings

Difference Between FDI and FPI

Aspect	FDI	FPI
Nature	Long-term investment	Short-term financial investment
Control	Investor gains management influence	No management control
Stability	Relatively stable	Highly volatile
Examples	Factories, infrastructure	Stocks and bonds

Why Capital Outflows Hurt the Rupee?

- Foreign investors sell rupee assets
- Convert rupees into dollars
- Dollar demand rises
- Rupee depreciates

Recent Causes of Rupee Weakness

- Rising U.S. interest rates
- Global geopolitical tensions
- Flight of capital toward safer assets

Historical Episodes of Sharp Rupee Depreciation

Major episodes include:

- 2013 “Taper Tantrum”
- 2018 emerging market stress
- COVID-19 shock (2020)
- 2022 global monetary tightening
- 2024–26 geopolitical and oil-price shocks

Common Features Across Episodes

- Trade account deterioration
- FPI outflows
- Global uncertainty

Economic Impact of Rupee Depreciation

Negative Effects

Costlier Imports

- India imports most of its crude oil.
- Weak rupee increases:
 - Fuel prices
 - Inflation
 - Industrial input costs

Example

- \$100 barrel oil cost:
 - ₹8,500 at ₹85/\$
 - ₹9,600 at ₹96/\$

Imported Inflation

Higher prices of:

- Fertilisers
- Electronics
- Industrial machinery
- Edible oils

Investment Concerns

- Depreciation lowers returns for foreign investors in dollar terms.
- May discourage future capital inflows.

Can a Weak Rupee Boost Exports?

Theoretical Advantage

- Depreciation can improve export competitiveness because Indian goods become cheaper abroad.

Structural Limitations in India

High Import Content in Exports

- Many exports rely on imported raw materials/components.
- Costlier imports reduce export gains.

Price-Taking Nature of Exports

- India competes with countries like:
 - Bangladesh
 - Vietnam
- Foreign buyers may pressure exporters to reduce dollar prices.

Supply-Side Bottlenecks

- High logistics costs
- Infrastructure gaps
- Limited manufacturing depth

Conclusion

- Depreciation alone may not substantially improve exports.

RBI's Role in Managing the Rupee

Nature of RBI Intervention

- RBI intervenes to prevent excessive volatility, not to maintain a fixed exchange rate.

Mechanism of Intervention

When rupee falls sharply:

1. RBI sells dollars from forex reserves
2. Purchases rupees
3. Raises rupee demand
4. Moderates depreciation

Forex Reserves as Strategic Buffer

India's Forex Position

- Forex reserves stood around \$691 billion in March 2026.

Importance

- Around 10.8 months of import cover
- Ensures payment for essential imports
- Builds market confidence
- Helps resist speculative attacks

Limits of RBI Intervention

Finite Forex Reserves

- Continuous intervention can deplete reserves below safe levels.

Nature of India's Forex Reserves

- Unlike export-surplus economies such as China, India's reserves depend significantly on volatile capital inflows.

Delayed Adjustment Risk

- Artificially stabilising rupee may postpone necessary corrections.
- Could lead to sharper future depreciation.

Debate: Defend the Rupee or Let It Adjust?

Arguments for Allowing Depreciation

- Conserves forex reserves
- Encourages market-based adjustment
- Improves export competitiveness
- Discourages excessive imports

Arguments for RBI Defence

- Prevents panic and speculation

- Ensures orderly currency movement
- Protects financial stability
- Reduces inflationary shocks

Risks of Free Fall

Unchecked depreciation may:

- Trigger speculative attacks
- Encourage importers to hoard dollars
- Reduce investor confidence
- Create vicious cycle of depreciation

Way Forward

- Reduce dependence on imported energy through renewable energy expansion.
- Strengthen export competitiveness via manufacturing reforms and logistics improvement.
- Maintain adequate forex reserves.
- Encourage stable long-term capital inflows like FDI over volatile FPI.
- Improve domestic production capacity under initiatives like Make in India.
- Maintain prudent macroeconomic and fiscal management.