



Nobel Prize in Literature 2022

Nobel Prize in Literature 2022



WINNER

Annie Ernaux (France)

For the courage and clinical acuity with which she uncovers the roots, estrangements and collective restraints of personal memory.

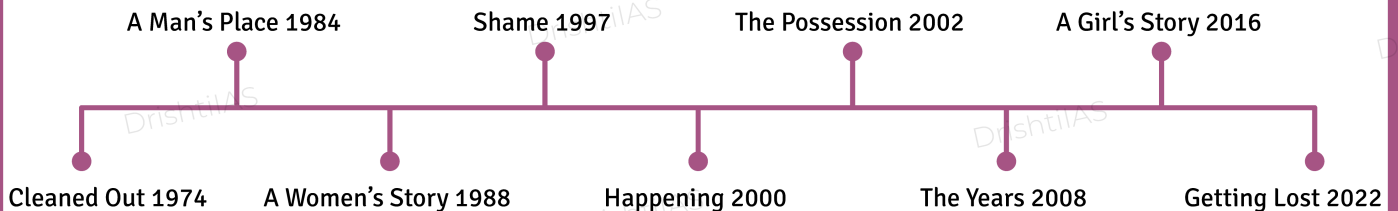
THEME OF WORK

Her writing consistently and from different angles, examines a life marked by strong disparities regarding gender, language and class.

AWARDS & RECOGNITION

French Language Prize | Marguerite Yourcenar prize | Honorary doctorate by the University of Cergy-Pontoise 2014 | "The Years" was shortlisted for the Man Booker International prize

NOTABLE WORK



INDIAN NOBEL PRIZE LAUREATE

Rabindranath Tagore is the only Indian to receive a Nobel Prize in Literature (1913). Major Work: Gitanjali, Chokher Bali, The Postmaster, Gora, Kabuliwala (The Fruitseller from Kabul), Sadhana: The realization of life, etc.

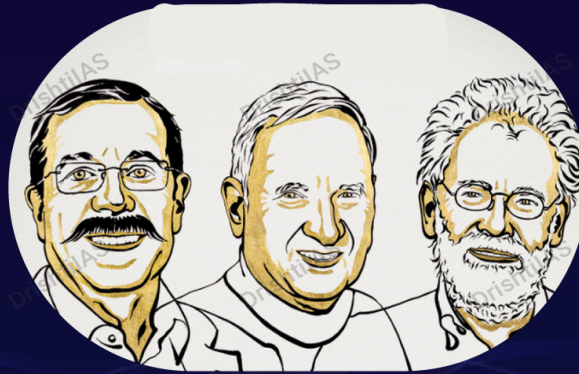


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Nobel Prize in Physics 2022



NOBEL PRIZE IN PHYSICS 2022



NOBEL LAUREATES JOHN F. CLAUSER, ALAIN ASPECT AND ANTON ZEILINGER

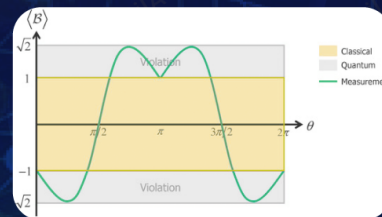
✧ **Field of Research:** Experiments with **entangled photons** (quantum entanglement), established the violation of **Bell inequalities**, and pioneering **quantum information science**.

✧ Key Terms

✧ **Quantum Mechanics:** A subfield of physics that describes the behavior of particles - atoms, electrons, photons etc. - in the molecular and sub molecular realm.

✧ **Quantum Entanglement:** A phenomenon by which a pair of subatomic particles are allowed to exist in a shared state where they have complementary properties; by measuring the properties of one particle, one can automatically know the properties of the other particle (regardless of how far apart the two particles are transported).

✧ **Bell Inequality:** Developed by **John Stewart Bell**, it states that if there are hidden variables, the correlation between the results of a large number of measurements will never exceed a certain value.



Bell Inequality

✧ **Significance:** It will help in constructing **quantum computers**, improving measurements, building **quantum networks**, establishing secure quantum encrypted communication (**quantum cryptography**) and in **precise timekeeping** as is done in atomic clocks.

Indian Nobel Prize Laureates:

✧ **Sir Chandrasekhara Venkata (CV) Raman:** Won the Nobel Prize for Physics in **1930** for the discovery of Raman Effect. **Raman Effect** is the phenomenon of change in wavelength in light rays that are deflected. It forms the basis for Raman spectroscopy which is used by chemists and physicists to gain information about materials.

✧ **Subramanyan Chandrashekhkar:** Won the Nobel Prize in Physics **1983** for "his theoretical studies of the physical processes of **importance to the structure and evolution of the stars**". He also determined the upper limit of a white dwarf's mass which is referred to as **Chandrasekhar limit**.

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Green Steel

For Prelims: Green Steel, Pradhan Mantri Urja Ganga Project, National Hydrogen Energy Mission (NHM), Blue Hydrogen, Green Hydrogen, India's Commitments at the Conference of the Parties (COP26).

For Mains: Green Steel, Significance, Challenge and the Way Forward.

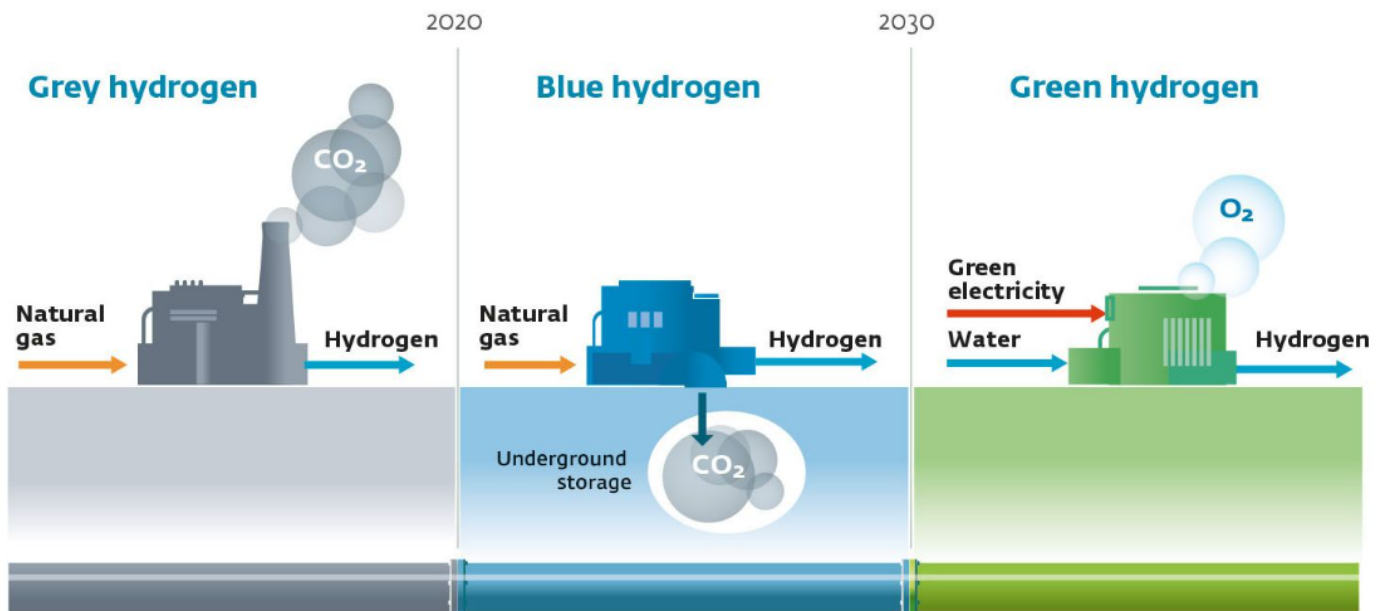
Why in News?

A clean steel sector in Eastern India can become **essential for the country's transition to 'Green Steel'**.

- To move towards 'Green Steel', **the Petroleum and Natural Gas Ministry launched [Pradhan Mantri Urja Ganga Project in Eastern India](#)** in 2019 to provide gas to all steel plants located in the area.

What is Green Steel?

- **About:**
 - Green Steel is the **manufacturing of [steel](#) without the use of fossil fuels**.
 - This can be done by using **low-carbon energy sources such as hydrogen, coal gasification, or electricity** instead of the traditional carbon-intensive manufacturing route of coal-fired plants.
 - It eventually **lowers [greenhouse gas emissions](#), cuts costs and improves the quality of steel**.
 - **[Low-carbon hydrogen \(blue hydrogen and green hydrogen\)](#)** can help **reduce the steel industry's carbon footprint**.
 - **[National Hydrogen Energy Mission \(NHM\)](#)** capitalizes on **hydrogen for a cleaner alternative fuel option**.
- **Ways of Production:**
 - **Substituting the Primary Production Processes with Cleaner Alternatives:**
 - **[Carbon capture, utilization and storage \(CCUS\)](#)**
 - Replacing conventional sources of energy with low-carbon hydrogen
 - Direct electrification through electrolysis of iron ore
- **Significance:**
 - The steel industry is the largest industrial sector in terms of intensive energy and resource use. It is one of the **biggest emitters of carbon dioxide (CO₂)**.
 - In view of commitments made at the **[Conference of the Parties \(COP26\)](#)** climate change conference, the Indian steel industry **needs to reduce its emissions substantially by 2030 and hit net-zero carbon emissions by 2070**.
- **Challenge:**
 - At present, the **country's iron and steel sector is financially weak**. However, Green Steel manufacturing is an expensive process involving high cost.



What are the Types of Hydrogen?

- **Green hydrogen** is produced by electrolysis of water using renewable energy (like Solar, Wind) and has a lower carbon footprint.
- **Brown hydrogen** is produced using coal where the emissions are released to the air.
- **Grey hydrogen** is produced from natural gas where the associated emissions are released to the air.
- **Blue hydrogen** is produced from natural gas, where the emissions are captured using carbon capture and storage.

What is the Status of Steel Production in India?

- **Production:** India is currently the world's 2nd largest producer of crude steel, producing 120 Million Tonnes (MT) crude steel during financial year 2021- 2022.
 - **Reserves:** More than 80 per cent of the country's reserves are in the states of Odisha, Jharkhand, West Bengal, Chhattisgarh and the northern regions of Andhra Pradesh.
 - **Important steel-producing centers are** Bhilai (Chhattisgarh), Durgapur (West Bengal), Burnpur (West Bengal), Jamshedpur (Jharkhand), Rourkela (Odisha), Bokaro (Jharkhand).
 - **Consumption:** India is the 2nd largest consumer of finished steel in 2021 (106.23 MT), preceded by China as the largest steel consumer as per World Steel Association.

Way Forward

- **Cost-effective technologies must be adopted to decarbonize the steel sector.** Many old plants need to be refurbished and energy efficiency measures for electricity-based manufacturing have bright prospects for further investment.
- **Scrap can be utilized in lowering the energy used for making steel** for which a suitable infrastructure for recycling and the Steel Scrap Recycling Policy needs to be constructed.
- **The government and public sector should commit** to the purchase of environmentally sustainable green steel to drive the demand for the same.
- **Public and Private sectors need to generate green standards** and similar types of labels for the market growth of green steel.
- **Old and polluting plant facilities**, which have reached the end of their life, should be removed.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Which of the following are some important pollutants released by steel industry in India? (2014)

1. Oxides of sulphur
2. Oxides of nitrogen
3. Carbon monoxide
4. Carbon dioxide

Select the correct answer using the code given below:

- (a) 1, 3 and 4 only
(b) 2 and 3 only
(c) 1 and 4 only
(d) 1, 2, 3 and 4

Ans: (d)

Exp:

- Steel industry creates pollution as it uses coal and Iron ore whose combustion releases various Polycyclic Aromatic Hydrocarbons (PAH) compounds and oxides into the air.
- In steel furnace, coke reacts with iron ore, releasing iron and generating major environmental pollutants.
- The pollutants released from steel producing units are:
 - Carbon Monoxide (CO), hence, 3 is correct.
 - Carbon Dioxide (CO₂), hence, 4 is correct.
 - Oxides of Sulphur (SO_x), hence, 1 is correct.
 - Oxides of Nitrogen (NO_x), hence, 2 is correct.
 - PM 2.5,
 - Waste Water,
 - Hazardous waste,
 - Solid waste.
- However, technological interventions in the form of air filters, water filters and other water saving, power saving and closed container can reduce emissions. **Therefore, option D is the correct answer**

Mains

Q. Account for the present location of iron and steel industries away from the source of raw material, by giving examples. (2020)

Q. Account for the change in the spatial pattern of the Iron and Steel industry in the world. (2014)

Source: DTE

Quality Council of India (QCI)

For Prelims: Quality Council of India (QCI), ASSOCHAM, Confederation of Indian Industry (CII), FICCI

For Mains: Quality Council of India (QCI) and its Contribution

Why in News?

Recently, the **Quality Council of India (QCI)** has completed the 25 years of its existence.

- The QCI has also launched a campaign, '**Gunvatta Se Atmanirbharta: India's Quality Movement**' to celebrate India's quality hubs, create awareness about India's landmark achievements and inform people about initiatives to enhance the quality of life of all citizens.

What is the Quality Council of India (QCI)?

- **History:**
 - Quality Council of India (QCI) was established as a National body for Accreditation in 1996.
 - Accordingly, QCI was set up through a **PPP model** as an independent autonomous organization with the support of Government of India and the Indian Industry represented by the three premier industry associations,
 - **[Associated Chambers of Commerce and Industry of India \(ASSOCHAM\)](#)**
 - **[Confederation of Indian Industry \(CII\)](#)**
 - **[Federation of Indian Chambers of Commerce and Industry \(FICCI\)](#)**
- **About:**
 - QCI is a **non-profit organization** registered under the Societies Registration Act XXI of 1860.
 - Nodal Ministry is the **Department of Industrial Policy and Promotion** under the Ministry of Commerce and Industry.
- **Composition:**
 - It is governed by a Council of 38 members with equal representations of government, industry and consumers.
 - Chairman of QCI is appointed by the Prime Minister on the recommendation of the industry to the government.
- **Objective:**
 - **To create a mechanism for independent third-party assessment** of products, services, and processes.
 - It plays a **pivotal role at the national level in propagating, adoption and adherence to quality standards** in all important spheres of activities including education, healthcare, environment protection, governance, social sectors, infrastructure sector and such other areas of organized activities that have significant bearing in improving the quality of life and wellbeing of the citizens of India.

How has India's Quality Council Contributed?

- **Transformation in the Coal Ecosystem:**
 - QCI has **brought quality consciousness into the entire coal ecosystem** and this initiative of QCI has been in the spirit of national service because it transformed the way the coal industry perceived quality.
 - Once QCI stepped in and started undertaking initiatives like third party sampling of coal, there was transformative improvement in quality in the sector.
- **Collaboration with FCI:**
 - **[Food Corporation of India's \(FCI\)](#)** commitment to quality had resulted in better quality food grains reaching consumers who were mostly underprivileged.
 - The process of distribution of these food grains was now completely technologically enabled using biometrics and under **[One Nation One Ration Card \(ONORC\)](#)**, beneficiaries could pick up their food from anywhere in the nation.

▪ **One District One Product (ODOP) Initiative:**

- QCI has also played an important role in the [One District One Product \(ODOP\)](#) initiative to encourage products from remote areas to find markets in India and abroad.
- QCI had also **contributed significantly in the GI tagging initiative** and in completing the [Swacch Surveykshan](#).

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. With reference to 'Quality Council of India (QCI)', consider the following statements: (2017)

1. QCI was set up jointly by the Government of India and the Indian Industry.
2. Chairman of QCI is appointed by the Prime Minister on the recommendations of the industry to the Government.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (c)

[Source: PIB](#)

Abortion Rights Vs Ethics

For Mains: Abortion Rights Vs Rights of Unborn

Why in News?

Recently, in a landmark judgment, the [Supreme Court](#) of India allowed [abortions up to 24 weeks for all women](#), including unmarried women.

Why is there a Debate over Abortion Rights and the Ethical Dilemma?

▪ **Issues with Respect to Women's Right:**

- **Woman's Right over her Body:**
 - A woman's right over her body has been advocated as a premise for freedom.
 - One cannot force a woman to bear a child in her womb and give birth to a child if she does not want to do so for various reasons.
- **Health:**
 - Unwanted pregnancies affect both physical and mental health.
- **Gender Equality:**
 - The right to abortion is vital for gender equality.
 - The right to abortion should be part of a portfolio of pregnancy rights that enables women to make a truly free choice whether to end a pregnancy.

- **Issues with respect to Feotus:**
 - **Right to Life:** Abortion amounts to the murder of a living being.
 - **Motherly Care:** It is a unique unspoken bond shared between two lives, which cannot be questioned or regulated by laws.
- **Issues with respect to Society in General:**
 - **Responsibility of State:** The State has the responsibility of valuing each life.
 - **Inclusion of all:** Abortion **should not become a mechanism of social control** for avoiding the appearance of differences or disabilities.
 - **Giving better life for Existing Children:** Many times, parents want abortion to be able to give a good life to existing children instead of dividing their meager resources into more children.

What are the Arguments against Abortion?

- Abortion is **not viewed by some as liberating**, but rather as a way for society not to cater to women's needs.
- Women don't need free abortion access, but their needs for financial and social survival as mothers are what they need for equality:
 - inexpensive, readily available childcare
 - a workplace or school that acknowledges the needs of mothers,
 - e.g., providing flexible scheduling and maternity leave,
 - state support that helps to reintegrate a woman into the workforce

What should be the Ethical approach to Abortion?

- Ethical approaches to abortion frequently invoke four principles.
 - Respect for patients' autonomy
 - Nonmaleficence (do no harm)
 - Beneficence (beneficial care) and
 - Justice
- The abortion dilemma has overlapping issues from different realms like legal, medical, ethical, philosophical, religious and human rights and it should be analysed from different perspectives.
- There cannot be any hard and fast rule over abortion and it must be discussed and deliberated to evolve a common consensus.

[Source: IE](#)

A Climate Risk Index for Marine Life

For Prelims: Climate Change, Marine Ecosystem, Global Warming, Paris Agreement

For Mains: Climate Risk Index for Marine Life

Why in News?

Recently, a new study was published titled **Climate Risk Index for Marine Life**, which captures the **climate risk for nearly 25,000 marine species** and their ecosystems.

- This new index lays the **groundwork for supporting climate-smart approaches** to managing and conserving [marine life](#).

What are the Findings?

- **Altering Marine Ecosystems:**
 - Warming oceans and climate extremes are **driving species into deeper, more northern and cooler locations, altering their behaviour** and reconfiguring marine ecosystems in radical and unprecedented ways.
- **High Emissions Scenario:**
 - In the high emissions scenario, the global average ocean temperature will increase by 3-5 degrees Celsius by 2100. Under this scenario, **almost 90 % of the 25,000 species are at a “high” or “critical” climate risk.** The average species is at risk across 85 % of its geographic range.
- **Subtropical and Tropical Ecosystem:**
 - The risk is **highest in the subtropical and tropical ecosystems** that tend to be biodiversity hotspots and in **nearshore ecosystems that support 96% of the global fish catch.**
 - Top predators like **sharks and tunas are at significantly higher risk than species further down the [food chain](#),** like forage fishes. Such predators can have massive effects on ecosystem structure and functioning.
- **Low-Income Nations:**
 - Under high emissions, climate risks for fished species such as cod and lobsters are consistently greater within the territories of **low-income nations, where people depend more on fisheries to meet their nutritional needs.**
 - This represents **yet another example of climate inequality** wherein low-income countries that have contributed the least to climate change, and are more aggressively reducing their emissions, **are experiencing its worst impacts while having the lowest capacity to adapt to them.**
- **Low Emissions Scenario:**
 - Under a low emissions scenario, **average ocean temperatures are expected to increase by 1-2 degrees Celsius** by 2100, as per the two degrees Celsius **[global warming](#)** limit in the **[Paris Agreement](#).**
 - Under this future, there is a reduced climate risk for virtually all marine life (98.2 %). The disproportionate risk for ecosystem structure, biodiversity, fisheries and low-income nations **are greatly reduced or eliminated.**

What are the Suggestions?

- Choosing a more sustainable path that prioritizes climate mitigation **will lead to clear benefits for ocean life and people.**
- Cutting emissions is the **most direct approach to reducing climate risks.**
- In addition to reducing emissions, it is imperative to simultaneously find ways **to adapt to a warming climate to protect our oceans.**
- There is a need to **incorporate new methods and adaptation strategies**, develop capacity in under-resourced parts of the world and carefully weigh the pros and cons of adaptation measures.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. What are the consequences of spreading ‘Dead Zones’ on marine ecosystems? (2018)

[Source: DTE](#)

Poverty and Shared Prosperity 2022: Correcting Course

For Prelims: Poverty and Shared Prosperity 2022, World Bank

For Mains: State of Poverty in India and related steps taken, Important International Institutions

Why in News?

Recently, the [World Bank](#) released a report titled “**Poverty and Shared Prosperity 2022: Correcting Course**”.

What are the Findings of the Report?

- **Global Poverty Reduction:**
 - Global poverty reduction **has been slowing down since 2015** but the [Covid pandemic](#) and the [war in Ukraine](#) have completely reversed the outcomes.
 - By 2015, the **global extreme-poverty rate had been cut by more than half.**
 - Since then, poverty reduction has slowed in tandem with subdued global economic growth.
 - As such, the **global goal of ending extreme poverty by 2030** would not be achieved.
- **People living below the Poverty Line:**
 - In 2020 alone, the **number of people living below the extreme poverty line rose by over 70 million**; the largest one-year increase since global poverty monitoring began in 1990.
 - Given current trends, 574 million people—nearly 7% of the world’s population—will still be living on less than USD 2.15 a day in 2030, with most in Africa.
- **Rise in Inequalities:**
 - The **poorest people bore the steepest costs of the pandemic:** Income losses averaged 4% for the poorest 40%, double the losses of the wealthiest 20% of the income distribution.
 - Global inequality rose, as a result, for the first time in decades.
 - Global median income declined by 4% in 2020—the first decline since measurements of median income began in 1990.

What are the Suggestions?

- National policy reforms can help restart progress in reducing poverty.
- Stepped-up global cooperation will also be necessary.
- In fiscal policy, governments should act promptly on three fronts:
 - **Avoid Broad Subsidies, increase targeted cash transfers:**
 - Half of all spending on energy subsidies in low- and middle- income economies go to the richest 20% of the population who consume more energy.
 - Cash transfers are a far more effective mechanism for supporting poor and vulnerable groups.
 - **Focus on Long-Term Growth:**
 - High-return investments in education, research and development, and infrastructure projects need to be made today.
 - In a time of scarce resources, **more efficient spending and improved preparation for the next crisis will be key.**
 - **Mobilize Domestic Revenues without Hurting the Poor:**
 - **Property taxes and carbon taxes can help raise revenue** without hurting the poorest.
 - So can broadening the base of personal and corporate income taxes.
 - If sales and excise taxes do need to be raised, **governments should minimize economic distortions** and negative distributional impacts by simultaneously using

targeted cash transfers to offset their effects on the most vulnerable households.

What is the State of Poverty in India?

▪ About:

- According to the World Bank published the paper titled '[Poverty has Declined over the Last Decade But Not As Much As Previously Thought](#)'.
 - Extreme poverty in India was **12.3% points lower in 2019 compared with 2011**, as poverty headcount rate declined from 22.5% in 2011 to 10.2% in 2019, with a comparatively sharper decline in rural areas.
 - Poverty reduction was higher in rural areas compared with urban India as rural poverty declined from 26.3% in 2011 to 11.6% in 2019, while in urban areas the decline was from 14.2% to 6.3% in the corresponding period.

▪ Poverty Estimation:

- Poverty estimation in India is carried out by [NITI Aayog's task force](#) through the calculation of poverty line based on the data captured by the **National Sample Survey Office** under the Ministry of Statistics and Programme Implementation (MOSPI).
 - Poverty line estimation in India is based on the **consumption expenditure and not on the income levels**.

▪ Recent Measures Taken:

- [Integrated Rural Development Programme \(IRDP\)](#)
- [Pradhan Mantri Awaas Yojana](#)
- [National Old Age Pension Scheme](#)
- [Mahatma Gandhi National Rural Employment Guarantee Act \(MGNREGA\) 2005](#)
- [Deendayal Antyodaya Yojana - National Rural Livelihood Mission \(DAY-NRLM\)](#)
- [National Urban Livelihood Mission](#)
- [Pradhan Mantri Kaushal Vikas Yojana](#)
- [Pradhan Mantri Jan Dhan Yojana](#)

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. In a given year in India, official poverty lines are higher in some States than in others because (2019)

- (a) poverty rates vary from State to State
- (b) price levels vary from State to State
- (c) Gross State Product varies from State to State
- (d) quality of public distribution varies from State to State

Ans: (b)

Exp:

- In India, poverty is estimated at absolute level or the minimum money required for subsistence. Presently, the poverty line is defined as the minimum money required for maintaining a per capita caloric intake of 2,100 calories in an urban area and 2,400 calories in a rural area.
- Thus, according to the Poverty Estimates (2011-12) of the Planning Commission, the poverty lines vary from State to State because the price of per capita goods varies due to interstate price differentials.
- **Therefore, option (b) is the correct answer.**

Mains

Q.“The incidence and intensity of poverty are more important in determining poverty based on income alone”. In this context analyse the latest United Nations Multidimensional Poverty Index Report. **(2020)**

OPEC+ Cuts Oil Production

For Prelims: Organisation of the Petroleum Exporting Countries and its allies, Crude Oil

For Mains: OPEC+'s Oil Production Cut and Its Impact

Why in News?

Recently, The [Organisation of the Petroleum Exporting Countries and its allies \(OPEC+\)](#) has decided to **cut oil production by 2 million barrels** per day (bpd).

- This is the **largest cut since the beginning of the [Covid-19 pandemic](#)**.
- US legislation in May 2022 passed the **No Oil Producing and Exporting Cartels (NOPEC) bill**, which is intended to protect **US consumers and businesses from engineered oil spikes**.

What are the Reasons for Slashing Production?

- Oil prices skyrocketed after Russia's invasion of Ukraine and have since begun to **soften over the past few months**, before dropping sharply to under USD 90 in September, 2022 due to **fears of a recession in Europe** and reduced demands from China because of **its lockdown measures**.
- The reductions **would boost prices and be extremely beneficial for the Middle Eastern member states**, to whom **Europe has turned for oil** after levelling sanctions against Russia since it invaded Ukraine.
- OPEC+ members are concerned that **a faltering global economy would reduce the demand for oil**, and the cuts are seen **as a way to protect profits**.
- Increased oil prices, which first occurred during the invasion of Ukraine, have helped Saudi Arabia, one of the founding members of OPEC, **become one of the world's fastest-growing economies**.
- It is possible that Russia might be influencing OPEC, to make **it more expensive for the West to extend energy sanctions** on Russia.

What would be its Impact?

- **Impact on European Countries:**
 - Recently, the European Union had announced its plan to implement a price cap on oil exports from Russia.
 - Under the plan, countries will only be permitted to purchase Russian oil and petroleum products transported via sea that are sold at or below the price cap.
 - However, the recent decision to reduce the supply is likely to keep the global oil prices high, **allowing Russia to continue aiming for significant revenue from its crude export**.
- **Impact on the U.S:**
 - The move is likely to be highly detrimental to the US, which has **repeatedly asked the organisation to increase oil production**.
 - Slashes in reduction and subsequently increased oil prices can be **particularly dangerous**

to the US, who is trying to **reduce inflation rates before the midterm elections** in November 2022.

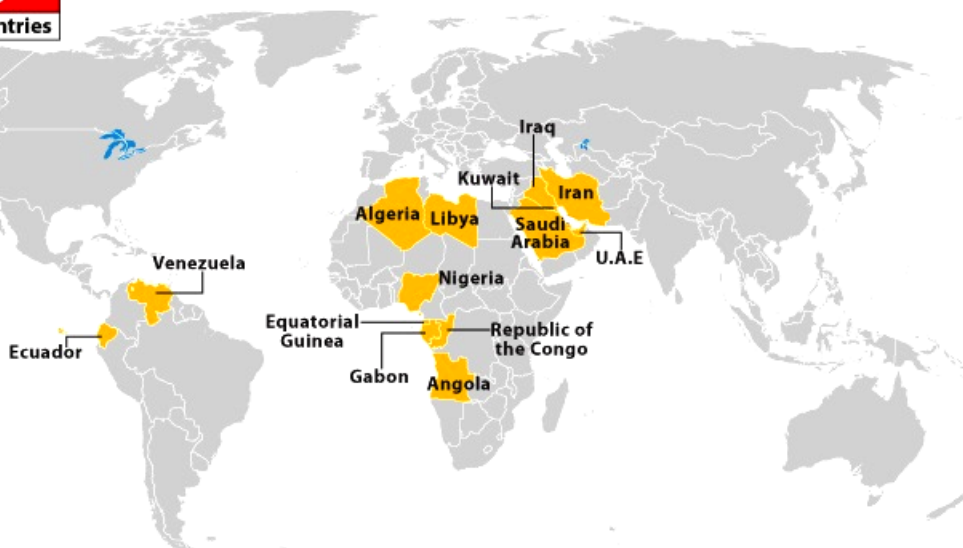
▪ **Impact on India:**

- India imports nearly **85% of its crude requirement**, the oil import bill will rise on account of the rise in prices. The rise in import bills will not only lead to **inflation** and **a rise in the Current Account Deficit (CAD) and fiscal deficit** but also weaken the rupee against the dollar and hurt stock market sentiment
 - As per **Investment Information and Credit Rating Agency (ICRA)**, for every \$10 per barrel increase in the price of the Indian crude oil basket, the CAD could widen by \$14-\$15 billion, or 0.4% of GDP.

What is OPEC+?

- Established in 1960 by founding members **Iran, Iraq, Kuwait, Saudi Arabia and Venezuela**, OPEC has since expanded and now has **13 member states**.
 - **Member countries are:** Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, Venezuela.
 - **Qatar terminated** its membership on 1st January 2019.
- With the addition of **another 10 allied major oil-producing countries**, the OPEC is known as **OPEC+**.
 - **OPEC+ countries include** 13 OPEC member countries, Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.
- The objective of the organization is to **“coordinate and unify the petroleum policies of its Member Countries** and ensure the **stabilisation of oil markets** in order to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers and **a fair return on capital for those investing in the petroleum industry**.
- Previously controlled by western-dominated multinational oil companies known as the “Seven Sisters,” OPEC sought to give the oil-producing nations greater influence over the global petroleum market.
- They account for roughly **40 % of the world’s crude oil** and 80 % of the globe’s oil reserves, according to estimates from 2018.
- They usually **meet every month to determine how much oil the member states will produce**.
- However, many allege that **OPEC behaves like a cartel**, determining the supply of oil and influencing its price in the world market.

WORLD OPEC Member Countries



UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Other than Venezuela, which one among the following from South America is a member of

OPEC? (2009)

- (a) Argentina
- (b) Bolivia
- (c) Ecuador
- (d) Brazil

Ans: (c)

[Source: IE](#)

Digital Services Act (DSA): EU

For Prelims: European Parliament and European Union (EU), Digital Services Act (DSA)

For Mains: Digital Services Act, Information Technology Rules 2021, freedom of speech and expression, Issues Arising Out of Design & Implementation of Policies, Government Policies & Interventions

Why in News?

The [European Union \(EU\)](#) has given **final approval to online safety-focused legislation called Digital Services Act (DSA)**, which is an overhaul of the region's social media and e-commerce rules.

What is the Digital Services Act?

- **About:**
 - As defined by the EU Commission, the DSA is “a set of common rules on intermediaries’ obligations and accountability across the single market”, and ensures higher protection to all EU users, irrespective of their country.
- **Objective:**
 - The DSA will tightly regulate the way intermediaries, especially large platforms such as Google, Facebook, and YouTube, function when it comes to moderating user content.

What are the Features of the Digital Services Act?

- **Faster Removals and Provisions to Challenge:**
 - As part of the overhaul, social media companies will have to add “**new procedures for faster removal**” of content deemed illegal or harmful.
 - They will also **have to explain to users how their content takedown policy works**.
 - The DSA also **allows users to challenge takedown decisions** taken by platforms and seek out-of-court settlements.
- **Bigger Platforms have Greater Responsibility:**
 - The law **avoids a one-size fits all approach** and places increased accountability on the Big Tech companies.
 - Under the DSA, **‘Very Large Online Platforms’ (VLOPs) and ‘Very Large Online Search Engines’ (VLOSEs)**, that is platforms, having more than 45 million users in the EU, will have more stringent requirements.

- **Direct Supervision by the European Commission:**
 - The **European Commission will be responsible for centrally supervising** these requirements and their enforcement.
- **More Transparency on how Algorithms Work:**
 - VLOPs and VLOSEs will **face transparency measures and scrutiny of how their algorithms work.**
 - These platforms will be **required to conduct systemic risk analysis** and reduction to drive accountability about the society impacts of their products.
 - VLOPs **must allow regulators to access their data to assess compliance** and let researchers access their data to identify systemic risks of illegal or harmful content.
- **Clearer Identifiers for ads and who's Paying for them:**
 - **Online platforms must ensure that users can easily identify advertisements** and understand who presents or pays for the advertisement.
 - They **must not display personalised advertising** directed towards minors or based on sensitive personal data.

How does the EU's DSA compare with India's Online Laws?

- **Information Technology Rules, 2021 (IT Rules):**
 - **About:**
 - In February 2021, India had notified extensive changes to its social media regulations in the form of the [Information Technology Rules, 2021 \(IT Rules\)](#) which placed significant due diligence requirements on large social media platforms such as Meta and Twitter.
 - These included **appointing key personnel to handle law enforcement requests and user grievances**, enabling identification of the first originator of the information on its platform under certain conditions, and deploying technology-based measures on a best-effort basis to identify certain types of content.
 - One of the **most contentious proposals is the creation of government-backed grievance appellate committees** which would have the authority to review and revoke content moderation decisions taken by platforms.
 - **Objection to the Law:**
 - Social media companies have **objected to some of the provisions in the IT Rules**, and WhatsApp has filed a case against a requirement which mandates it to trace the first originator of a message.
 - One of the reasons that the platform may be required to trace the originator is if a user has shared child sexual abuse material on its platform.
 - WhatsApp has, however, alleged that the requirement will dilute the encryption security on its platform and could compromise personal messages of millions of Indians.
- **IT Act, 2000:**
 - India is **also working on a complete overhaul of its technology policies** and is expected to soon come out with a replacement of its [IT Act, 2000](#).
 - It is expected to look at ensuring net neutrality and algorithmic accountability of social media platforms among other things.

[Source: IE](#)

Lassa Fever

For Prelims: Lassa Fever, Zoonotic disease.

Why in News?

Recently a study has found that Climate change may aid the **spread of [Lassa fever](#), which is endemic to parts of west Africa**, to the **Central and Eastern parts** of the **African continent** in the next 50 years.

What are the Findings?

- There would be a **600% jump in the number of people exposed to the virus** that causes **Lassa fever**.
 - The number of people at risk of exposure would rise to 453 million by 2050 and 700 million by 2070, up from about 92 million in 2022.
- An estimated 80% of infections are mild or asymptomatic. But the remaining 20 % can cause haemorrhaging from the mouth and gut, low blood pressure and potential permanent hearing loss.
- Temperature, rainfall and the presence of pastureland areas are **key factors that contributed to the transmission** of the Lassa virus.
- If the virus is **successfully introduced and propagated in a new ecologically suitable area**, its growth would be limited over the first decades.

What is Lassa Fever?

- **About:**
 - The Lassa fever-causing virus is found in West Africa and was **first discovered in 1969 in Lassa, Nigeria**.
 - The virus is a **single-stranded RNA virus** belonging to the virus family **Arenaviridae**.
 - The fever is spread by rats and is primarily found in countries in West Africa including Sierra Leone, Liberia, Guinea, and Nigeria where it is endemic.
 - Mastomys rats have the potential to spread the deadly Lassa virus.
 - The death rate associated with this disease is low, at around 1%. But the death rate is higher for certain individuals, such as pregnant women in their third trimester.
 - According to the **European Centre for Disease Prevention and Control**, about 80% of the cases are asymptomatic and therefore remain undiagnosed.
- **Transmission:**
 - A person can become infected if they come in contact with household items of food that is contaminated with the urine or feces of an **infected rat ([zoonotic disease](#))**.
 - It can also be spread, though rarely, if a person comes in contact with a sick person's infected bodily fluids or through mucous membranes such as the eyes, nose or the mouth.
- **Symptoms:**
 - Mild symptoms include **slight fever, fatigue, weakness and headache**.
 - Serious symptoms include bleeding, difficulty breathing, vomiting, facial swelling, pain in the chest, back, and abdomen and shock.
 - Death can occur from two weeks of the onset of symptoms, usually as a result of multi-organ failure.
- **Treatment:**
 - The **antiviral drug ribavirin seems to be an effective treatment** for Lassa fever if given early on in the course of clinical illness.
 - There are no vaccines currently licensed for the prevention of Lassa fever.



Viral outbreak

LASSA FEVER

What is this disease?

Lassa fever is an animal-borne, or zoonotic, acute viral illness; It was discovered in 1969 in **Lassa, Nigeria**



Caused by Lassa virus, a member of the arenavirus family of viruses

Spread by rats. Mastomys rats are said to have the potential to spread the virus



Lassa fever does not spread through casual contact like hugging, shaking hands, or sitting near someone

UPSC Civil Services Examination Previous Year Question (PYQ)

Q. Consider the following statements:

1. Adenoviruses have single-stranded DNA genomes whereas retroviruses have double-stranded DNA genomes.
2. Common cold is sometimes caused by an adenovirus whereas AIDS is caused by a retrovirus.

Which of the statements given above is/are correct?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Ans: (b)

Exp:

- Viruses are infectious particles that have the ability to infect both eukaryotic and prokaryotic hosts. They are host specific and mostly pathogenic, and thus considered as the common causative agents of many diseases. Viruses that infect human hosts can be categorized as

adenoviruses and retroviruses

- Adenovirus is a type of virus that has no envelope whereas retroviruses are characterized as enveloped viruses. Adenoviruses have double-stranded linear DNA and are associated with two major core proteins. A **retrovirus is a virus that uses RNA as its genetic material**. When a retrovirus infects a cell, it makes a DNA copy of its genome that is inserted into the DNA of the host cell. **Hence, statement 1 is not correct.**
- Adenoviruses are common viruses that cause a range of illnesses. They can cause cold-like symptoms, fever, sore throat, bronchitis, pneumonia, diarrhoea, and pink eye (conjunctivitis). Whereas, retroviruses can cause several human diseases such as some forms of cancer and AIDS. **Hence, statement 2 is correct.**
- **Therefore, option (b) is the correct answer.**

[Source: DTE](#)

Nobel Prize in Literature 2022

Why in News?

The **2022 Nobel Prize in Literature** has been awarded to **French author “Annie Ernaux”** for **“the courage and clinical acuity with which she uncovers the roots, estrangements and collective restraints of personal memory”**.

- In 2021, the award was given to novelist **Abdulrazak Gurnah** “for his uncompromising and compassionate penetration of the effects of colonialism and the fate of the refugee in the gulf between cultures and continents”.
- The Nobel Prizes in [Physics](#), [Chemistry](#) and [Medicine](#) for 2022 have already been awarded.

Who is Annie Ernaux?



▪ **About:**

- Annie was **born in 1940** and brought up in the small town of **Yvetot in Normandy (France)**.

- She went on to study at the **universities of Rouen** and then **Bordeaux** from where she qualified as a schoolteacher and gained a **higher degree in modern literature**.

▪ **Career & Work:**

- Her exemplary literary career started with the publication of **her first book, Cleaned Out, in 1974**.
 - Her other major work includes **“A Women’s Story”, “Happening”, “A Girl’s Story”, “Getting Lost”**.
- **Themes of her work:**
 - Her books talk about the body and sexuality, intimate relationships, social inequality and the experience of changing class through education, time and memory, and the overarching question of how to write these life experiences.
 - Her books have explored how shame is built into the female consciousness, and how women censor and judge themselves even in personal spaces such as a diary.

▪ **Awards & Recognition:**

- Her works overall have received the **French language prize** and the **Marguerite Yourcenar prize**.
- In 2014 she was awarded **an honorary doctorate by the University of Cergy-Pontoise**.
- Her work **“The Years”** was **shortlisted** for the [Man Booker International prize](#).

[Source: IE](#)

