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Important Issues of the Day

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- Special Intensive Revision – Page No. 10, GS 2
- The U.S. tariff shock – Page No. 10, GS 3
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Indore death toll due to unsafe water rises to 10; official sacked

Mehul Malpani
BHOPAL

More than 2,000 people have fallen ill after consuming contaminated water

An official was dismissed from service and two others suspended even as the death toll climbed to 10 in Indore city of Madhya Pradesh where more than 2,000 people have fallen ill after consuming contaminated water supplied by the municipal corporation, officials said on Wednesday. A three-member panel has also been formed to investigate the incident.

The deceased include a six-month-old child, who passed away on Wednesday, and six women. More than 100 people from Indore's Bhagirathpura area have been admitted to hospitals in the past one week after drinking water from a municipal supply line.

While the authorities are yet to release the official toll, a senior district officer said that the figure has crossed 10.

In-charge sub-engineer Shubham Shrivastava of the Public Health Engineering Department of the Indore Municipal Corporation (IMC) was terminated while zonal officer Shaligram Sitole and assistant engineer Yogesh Joshi were suspended on the instructions of Chief Minister Mohan Yadav.

"Till today, 7,992 houses were surveyed in which about 39,854 people were examined, out of which about 2,456 suspected patients were found, who were given first aid on the spot," a statement from the office of Chief Medical and Health Officer said.

CONTINUED ON
» PAGE 14

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- **A three-member panel has also been formed to investigate the incident.**

- **The deceased include a six-month-old child, who passed away on Wednesday, and six women.**

- **More than 100 people from Indore's Bhagirathpura area have been admitted to hospitals in the past one week after drinking water from a municipal supply line.**

- **“A main leakage from a toilet drainage over the main supply line has been repaired and the toilet has been dismantled. Various other leakages were also found and repaired. We will test the water supply tomorrow and check for any leakages and water quality. The supply will be resumed once everything is fine,” Mr. Yadav said.**

- **Naturally Occurring Contaminants: High levels of arsenic, fluoride, iron, and uranium exist naturally in some geological formations, contaminating groundwater.**

- **In terms of arsenic and iron pollution, West Bengal and Assam are the worst affected states respectively.**

- **Agriculture: Excessive use of fertilisers, pesticides, and herbicides leach harmful chemicals into the water table.**

- **Industrial Waste: Untreated industrial effluents often find their way into groundwater sources, introducing heavy metals and other toxins.**

- **Urbanisation: Leaky sewage systems and improper waste disposal in urban areas contribute to groundwater pollution.**

- **Saltwater Intrusion: In coastal areas, over-pumping of groundwater can cause saltwater from the ocean to infiltrate freshwater aquifers, rendering the water unusable for drinking or irrigation.**

- **Rajasthan has the highest number of rural habitations affected by (salinity) contamination.**

Central Ground Water Authority

- **About: The authority has been constituted under Section 3 (3) of the Environment (Protection) Act, 1986 to regulate and control the development and management of groundwater resources in the country.**
- **Major Functions:**
- **To regulate, control, manage and development of groundwater in the country and to issue necessary regulatory directions for the purpose.**
- **Exercise of powers under section 4 of the Environment (Protection) Act, 1986 for the appointment of officers.**

- **Launched on 15th August 2019, the Jal Jeevan Mission (JJM) aims to provide tap water to every rural household by 2024 (extended till 2028), targeting 55 liters per person per day. It is a Centrally Sponsored Scheme, implemented by the Ministry of Jal Shakti.**

- **T – Target Every Rural Household: Provide Functional Household Tap Connections (FHTC) to all rural households.**
- **A – Areas of Priority: Focus on quality-affected, drought-prone, desert regions, and Sansad Adarsh Gram Yojana (SAGY) villages.**
- **P – Public Places: Ensure taps in schools, Anganwadi centers, gram panchayats, and community buildings.**

- **Drinking water is a state subject and the power to plan, approve and implement drinking water supply schemes is vested in the State Government.**

- **In 2019, only 3.23 crore rural households (17%) had tap water; by 2025, coverage rose to 15+ crore households (80%).**

Which of the following can be found as pollutants in the drinking water in some parts of India? (2013)

1. **Arsenic**
2. **Sorbitol**
3. **Fluoride**
4. **Formaldehyde**
5. **Uranium**

Select the correct answer using the codes given below.

a) 1 and 3 only
b) 2, 4 and 5 only
c) 1, 3 and 5 only
d) 1, 2, 3, 4 and 5

Which one of the following ancient towns is well known for its elaborate system of water harvesting and management by building a series of dams and channelizing water into connected reservoirs? (2021)

(a) Dholavira
(b) Kalibangan
(c) Rakhigarhi
(d) Ropar

Mains Question

- *Access to safe and clean drinking water is fundamental to public health, human dignity, and sustainable development.*
  In this context, critically examine the challenges faced by India in ensuring universal access to safe and clean water. Discuss the role of government initiatives, technological interventions, and community participation in achieving water security.
  (250 words | 15 marks)

- *सुरक्षित और स्वच्छ पेयजल तक पहुँच सार्वजनिक स्वास्थ्य, मानव गरिमा तथा सतत विकास की आधारशिला है।*
  इस संदर्भ में, भारत में सभी के लिए सुरक्षित और स्वच्छ जल उपलब्ध कराने में आने वाली चुनौतियों का समालोचनात्मक विश्लेषण कीजिए। जल सुरक्षा प्राप्त करने में सरकारी पहलों, तकनीकी हस्तक्षेपों तथा सामुदायिक भागीदारी की भूमिका पर चर्चा कीजिए।
  (250 शब्द | 15 अंक)

Page No. 10, GS 3

India's space programme, a people's space journey

India's space journey has evolved beyond a string of spectacular missions. It has the national pulse and is a source of daily inspiration. In June 2025, when Group Captain Shubhanshu Shukla displayed the Tricolour aboard the International Space Station (ISS) and spoke to Prime Minister Narendra Modi, it was a moment of pride for every Indian. The Prime Minister called it a "defining chapter" of *Amrit Kaal* ('era of nectar'), and for many, that moment felt like India's ascent was a part of their own heartbeat. It was not just science. It was identity being reshaped through vision and purposeful programmes.

That same spirit has been echoed earlier, on August 23, 2023, when Chandrayaan-3 made India the first nation to land near the lunar south pole. "India is now on the Moon," declared Mr. Modi – words which rippled through classrooms, villages and living rooms alike. India's lunar programme has been truly path breaking: Chandrayaan-1 (2008) confirmed the presence of water molecules; Chandrayaan-2 (2019) mapped the moon with high precision and prepared the ground for Chandrayaan-3 (2023), which achieved the world's first soft landing near the south pole. When the Vikram lander and Pragyan rover explored the lunar surface for a full moon day, this led children to draw depictions of lunar landscapes in notebooks, it left researchers feeling vindicated, and inspired citizens who saw India's story in space as also their own future.

India has become a trusted global partner in space. Over 400 foreign satellites have been launched aboard Indian rockets. In 2014, India became the first Asian nation and only the fourth in the world to reach Mars orbit – and on its maiden attempt, with the Mars Orbiter Mission (Mangalyaan). The Aditya-L1 mission (2023), built through multi-institutional collaboration, is providing unprecedented insights into the sun's corona and its impact on space weather. XPoSat (2024) is studying black holes, while SpaDeX (2024) has demonstrated in-orbit docking for future space stations and lunar missions.

A new space vision

These milestones are reshaping policy, culture, and aspiration. The road map is bold: continuation of the Gaganyaan programme for human spaceflight, Chandrayaan-4 and 5 for deeper lunar exploration, a dedicated Venus mission, a Bharatiya Antariksh Station (BAS) by 2035, and an Indian human landing on the Moon by 2040. These are not distant dreams but national goals, aligned with the spirit of *Amrit Kaal*.

S. Somanath

was Secretary, Department of Space, and Chairman of the Indian Space Research Organisation (ISRO). He is now Distinguished Visiting Professor, Indian Institute of Science (IISc), Bengaluru, and Adviser (Space Technology), Government of Andhra Pradesh

India is not only an active participant in the space age but is also shaping it

The Prime Minister has called for building a pool of 40 to 50 trained astronauts for future missions. On National Space Day 2025 (August 23), he urged young citizens to see themselves as participants in India's human space programme. Gaganyaan, with an approved outlay of over ₹20,000 crore, is advancing steadily. Four Indian Air Force test pilots are undergoing training, and a series of uncrewed and crewed flights will culminate in India's first indigenous human space mission, presently targeted for 2027.

Space technology today is woven into the fabric of governance and daily life. Satellites deliver disaster warnings, guide fishermen, assess crop yields and insurance claims, enhance railway safety, and power the geospatial backbone of the PM Gati Shakti programme. Space is no longer a distant luxury but a democratic utility – accessible to every citizen.

At the same time, space exploration fuels Science, Technology, Engineering and Mathematics (STEM) education, advanced research, and workforce development. Future-ready technologies in space operations autonomy, robotics, in-space manufacturing, surveillance and interplanetary travel are being developed, ensuring that India retains leadership in this strategic frontier.

The transformation of India's space sector is deliberate and ambitious. The opening of the field to private players, creating a thriving ecosystem of more than 350 startups building satellites, launch vehicles, and ground systems. The space budget has nearly tripled – from ₹5,615 crore in 2013-14 to ₹13,416 crore in 2025-26 – and has been augmented by nearly ₹5,000 crore in user funds. India's space economy, currently valued at $8 billion, is projected to grow to $44 billion in the years ahead, creating jobs, industries and innovations that orbit around this sector.

Inspiring the next generation

The Prime Minister has challenged the ecosystem to deliver five space unicorns within the next five years and to scale up annual launches, nearly ten-fold, to 50 a year. With private participation, India is advancing technologies related to semi-cryogenics, electric propulsion, quantum communication and in-orbit servicing.

Youth are at the heart of this vision. The International Olympiad on Astronomy and Astrophysics hosted in India (August 2025) drew nearly 300 participants from over 60 countries, with Indian students winning medals. Initiatives such as the ISRO Robotics Challenge and Indian Space Hackathon/Bharatiya Antariksh Hackathon are bringing school and college students into direct contact with rovers, satellites and rockets, building confidence that the laboratories and launchpads of tomorrow are theirs to claim.

At the policy level, the National Meet 2.0 held just before National Space Day produced 5,000-plus pages of documentation across 300 user interactions. This 15-year road map aligns every mission with the vision of Viksit Bharat 2047.

Global collaborations and leadership

Space has been consistently projected as a global commons, where India's leadership translates into shared progress. The South Asia Satellite has provided neighbours with communication capacity, while during India's G-20 Presidency in 2023, India announced a "G20 satellite" for climate and environmental monitoring with data shared with all nations. Collaborative missions such as NASA-ISRO Synthetic Aperture Radar (NISAR) with the National Aeronautics and Space Administration (NASA), Thermal infraRed Imaging Satellite for High-resolution Natural resource Assessment (TRISHNA) with CNES (French space agency), Lunar Polar Exploration (LUPEX) with Japan Aerospace Exploration Agency (JAXA), and India's participation in the European Space Agency (ESA)'s Proba-3 demonstrate India's rise as a global partner, guided by the ethos of *Vasudhaiva Kutumbakam* ('the world is one family').

India's space journey is more than rockets and satellites. It is about a nation discovering new ways to see itself. The salute of Shubhanshu Shukla aboard the ISS, the landing of Chandrayaan-3, 350 startups from small towns designing space systems, young students competing in Olympiads, and satellites quietly serving national security and citizen services are all part of the same story.

In this *Amrit Kaal*, India is not simply participating in the space age. It is shaping it. With ambition, confidence, and purpose, Bharat looks to the stars knowing that the horizon belongs to it too.

The views expressed are personal

- India’s space journey has evolved beyond a string of spectacular missions.
- India’s lunar programme has been truly path breaking: Chandrayaan-1 (2008) confirmed the presence of water molecules; Chandrayaan-2 (2019) mapped the moon with high precision and prepared the ground for Chandrayaan-3 (2023), which achieved the world’s first soft landing near the south pole.
- When the Vikram lander and Pragyan rover explored the lunar surface for a full moon day, this led children to draw depictions of lunar landscapes in notebooks, it left researchers feeling vindicated, and inspired citizens who saw India’s story in space as also their own future.
- India has become a trusted global partner in space. Over 400 foreign satellites have been launched aboard Indian rockets.

- **In 2014, India became the first Asian nation and only the fourth in the world to reach Mars orbit — and on its maiden attempt, with the Mars Orbiter Mission (Mangalyaan).**

- **The Aditya-L1 mission (2023), built through multi-institutional collaboration, is providing unprecedented insights into the sun's corona and its impact on space weather.**

- **XPoSat (2024) is studying black holes, while SpaDeX (2024) has demonstrated in-orbit docking for future space stations and lunar missions.**

- **The road map is bold: continuation of the Gaganyaan programme for human spaceflight, Chandrayaan-4 and 5 for deeper lunar exploration, a dedicated Venus mission, a Bharatiya Antariksh Station (BAS) by 2035, and an Indian human landing on the Moon by 2040. These are not distant dreams but national goals, aligned with the spirit of Amrit Kaal.**

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Which one of the following is a reason why astronomical distances are measured in light-years?

(a) Distances among stellar bodies do not change.

(b) Gravity of stellar bodies does not change.

(c) Light always travels in straight line.

(d) Speed of light is always same.

The Mangalyaan launched by ISRO

1. **is also called the Mars Orbiter Mission**
2. **made India the second country to have a spacecraft orbit the Mars after USA**
3. **made India the only country to be successful in making its spacecraft orbit the Mars in its very first attempt**

Which of the statement(s) given above is/are correct?

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Mains Question

- *India's space journey has emerged as a symbol of technological self-reliance and global stature.*
  In this context, examine the major milestones in the evolution of India's space programme and analyze its socio-economic, strategic, and scientific significance. Also discuss the emerging challenges and future prospects of India's space sector.
  (250 words | 15 marks)

- **भारत की अंतरिक्ष यात्रा आत्मनिर्भरता, तकनीकी क्षमता और वैश्विक प्रतिष्ठा का प्रतीक बनकर उभरी है।इस संदर्भ में, भारत के अंतरिक्ष कार्यक्रम के विकास की प्रमुख उपलब्धियों पर प्रकाश डालते हुए, इसके सामाजिक-आर्थिक, सामरिक तथा वैज्ञानिक प्रभावों का विश्लेषण कीजिए। साथ ही, भारत के अंतरिक्ष क्षेत्र के समक्ष उभरती चुनौतियों और भविष्य की संभावनाओं पर चर्चा कीजिए।(250 शब्द | 15 अंक)**

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Descent into farce

Ad hoc changes and poor implementation mar the ECI's SIR

The Election Commission of India (ECI)'s Special Intensive Revision (SIR) of electoral rolls across 12 States and Union Territories (UT) is fast descending into a farce. Take the case of West Bengal, where furore over elderly residents having to attend eligibility hearings in remote locations even after submitting their enrolment forms forced the ECI to order home verification. Or, the fact that it had to conditionally halt hearings of "unmapped" voters (those whose names or parents' names were not mapped with the 2002 SIR). Summons were in the form of software notices, but this software was not used in Bihar. An association of civil servants complained that this "*suo motu* system-driven deletion of electors from the draft electoral rolls in West Bengal in the ongoing SIR process [bypassed] the statutory role of the [Electoral Registration Officers]". The procedural chaos could have been avoided had the ECI not rushed into the SIR just before Assembly elections in States/UTs such as West Bengal, Tamil Nadu, Kerala and Puducherry. Its ad hoc use of software – the ECI junked its de-duplication software in Bihar and told the Supreme Court why it was not using it, but reportedly used it alongside another software to flag "unmapped" voters without proper protocol – is creating confusion and distress. The suspicion that the ECI is using an exercise of updating electoral rolls as a de facto citizenship screening exercise seems to be confirmed by the manner in which it is going about things.

There are inconsistencies and anomalies in the draft electoral rolls, many of which have been flagged by *The Hindu*'s data-driven investigations. The over 6.5 crore deletions, according to provisional numbers, suggest methodological problems in and poor implementation of the exercise. In Uttar Pradesh, provisional figures show that 2.89 crore names have been deleted, which could possibly explain why the ECI has postponed publication of the draft roll to January 6. In Tamil Nadu and Gujarat, which are relatively urbanised States with net in-migration of electors, 97 lakh and 73.7 lakh electors, respectively, have been taken off the draft rolls. That both States have since seen the furious inclusion of lakhs of names – added incomprehensibly as fresh additions in another procedural flaw – suggests that the enumeration phase was concluded haphazardly. This situation could have been avoided had the Court gone beyond limited interventions – which were salves for Bihar electors – to properly vet the new SIR procedure for constitutionality. It is still not too late for the Court to take note of the infirmities and to decide firmly in favour of the electorate. The fate of the very idea of universal adult franchise hangs in the balance.

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Consider the following statements:

1. **According to the Constitution of India, a person who is eligible to vote can be made a minister in a State for six months even if he/she is not a member of the Legislature of that State.**
2. **According to the Representation of People Act, 1951, a person convicted of a criminal offence and sentenced to imprisonment for five years is permanently disqualified from contesting an election even after his release from prison.**

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

Consider the following statements:

1. **The Election Commission of India is a five-member body.**
2. **Union Ministry of Home Affairs decides the election schedule for the conduct of both general elections and bye-elections.**
3. **Election Commission resolves the disputes relating to splits/mergers of recognised political parties.**

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 2 and 3 only
(d) 3 only

Page No. 10, GS 3

The U.S. tariff shock, India's pharma future

R.H. Pavithra

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In September 2025, U.S. President Donald Trump's sweeping announcement imposing a 100% tariff on branded and patented pharmaceutical imports from October 1, 2025, saw India's pharmaceutical industry, which has long been hailed as the "pharmacy of the world", standing at a crossroads. The U.S.'s move, ostensibly aimed at bolstering domestic manufacturing, threatens to disrupt supply chains that have saved the U.S. health-care system billions of dollars while also fuelling India's export-led growth.

Yet, as tariffs ripple through global markets, India's dominance in generics offers a vital buffer, even as it underscores the urgent need for diversified partnerships and domestic reforms. With pharma exports to the U.S. alone reaching close to $9 billion in fiscal 2025 – a 14.29% surge year-on-year – the stakes could not be higher for India's $50 billion pharmaceutical sector, which contributes nearly 1.72% to the nation's GDP.

A global perspective

Global pharmaceutical exports, valued at over $850 billion in 2024, thrive on aging populations, chronic diseases, and post-COVID-19 pandemic innovation. Germany ($119.85 billion), Switzerland ($99.08 billion), and the U.S. ($90.30 billion) were lead exporters in 2023-24, while the U.S. ($212.67 billion in imports in 2024), Switzerland, Germany, Belgium, and China top importers. The European Union (EU)'s €313.4 billion in medicinal exports in 2024, up 13.5%, reflects resilience amid geopolitical tensions. India, the third-largest exporter by volume, shipped $27 billion in 2023, rising to $30.47 billion in FY25.

Generics dominate, with 70% of exports to the U.S. and Europe. However, $5 billion in annual imports, mainly active pharmaceutical ingredients (API) from China (72% share), exposes supply chain risks. The sector's 10%-12% CAGR adds 0.5%-1% to GDP growth annually, bolstering forex reserves. The U.S. tariff, which has spared generics for now, targets branded drugs unless made domestically. India supplies 40% of U.S. generics, saving payers $219 billion in 2022. Yet, the market jitters were immediate with the shares of pharma majors falling and erasing millions in market cap. An escalation to generics could cut export revenues by 10%-15%, trimming GDP growth by 0.2%-0.3% in FY26. Some firms with over 30% U.S. exposure, face rerouting costs, regulatory hurdles, API inflation (up 5%-7%), and stalled research and development. This could spur "China-plus-one" strategies, redirecting exports to Africa and Southeast Asia, potentially raising India's regulated market share from 3% to 3.5% by 2030.

For India, its strength in generics acts as a buffer, but diversification and reforms are a necessity

India's Goods and Services Tax (GST) rationalisation, effective September 22, 2025, provides domestic ballast. Drug and medicine rates dropped from 12% to 5%, with 36 essential items at nil, saving consumers $1.2 billion annually. Medical device rates fell from 18% to 5%, easing $5 billion in imports. No re-labelling for pre-September stocks minimises disruptions. Aligned with Ayushman Bharat, this boosts consumption by 8%-10%, insulating markets from tariff-driven hikes.

On eastern scale

Global trade pits western innovation against eastern scale. Under the U.S.-EU pact, EU exports of medicinal and pharmaceutical products to the U.S. ($65.7 billion from Ireland in 2024), prioritises supply chain security. China's 2025 agreements, capturing 32% of Q1 global biotech deals, and $2.5 billion in U.S. molecule licensing in H1 2025, signal eastern strength. India's diplomacy has seen the signing of six memoranda of understanding (MoU) with Trinidad and Tobago in July 2025 (it includes cooperation in pharmaceuticals), a Singapore API pact, and Serum Institute's dengue treatment collaboration for low-middle-income nations. These, alongside iPHEX (the international pharmaceutical exhibition) could double exports to Africa significantly. With 35% of pharmaceutical exports U.S.-bound, eastern alliances could offset 20%-25% of tariff risks.

Bullish forecasts

Forecasts paint a bullish canvas: India's pharma market, valued at $50 billion in 2023-24, has a goal of reaching $130 billion by 2030 (11%-12% CAGR), with exports surging to $120-$130 billion. Globally, spending could hit $1.5 trillion by 2029, fuelled by biosimilars and precision medicine. India's API sector could grow to ₹1.82 trillion by 2030 ($22 billion), with PLI schemes reclaiming 20% domestic production.

Challenges such as IP disputes and API dependency persist, but resilience shines through initiatives such as Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP). Under the PMBJP, a total of 16,912 Jan Aushadhi Kendras have been opened (June 2025), with 2,110 medicines and 315 surgicals, medical consumables and devices under the scheme product basket.

Tariffs threaten affordability, with U.S. cancer therapy costs potentially rising $8,000-$10,000 for a 24-week course, mirroring India's 60% out-of-pocket burden. Generics, 80% cheaper, enable 20 million treatments yearly, though quality concerns and disruptions risk delaying surgeries by 15%-20%. PMBJP's oncology basket, cutting costs by 70%, proves that domestic buffers work.

U.S. tariffs risk causing shortages if India's 40% generic supply frays. India must leverage MoUs, invest $10 billion in APIs via PLI 2.0, and push WTO reforms. With global pharma eyeing $450 billion for India by 2047, collaboration in the form of east-west hybrids, innovation, and equitable access is key. Policymakers must diversify boldly, reform swiftly, and secure India's pharma supremacy.

- **In September 2025, U.S. President Donald Trump’s sweeping announcement imposing a 100% tariff on branded and patented pharmaceutical imports from October 1, 2025, saw India’s pharmaceutical industry, which has long been hailed as the “pharmacy of the world”, standing at a crossroads.**

- **The U.S.’s move, ostensibly aimed at bolstering domestic manufacturing, threatens to disrupt supply chains that have saved the U.S. health-care system billions of dollars while also fuelling India’s export-led growth.**

- **Yet, as tariffs ripple through global markets, India’s dominance in generics offers a vital buffer, even as it underscores the urgent need for diversified partnerships and domestic reforms.**

- **With pharma exports to the U.S. alone reaching close to $9 billion in fiscal 2025 — a 14.29% surge year-on-year — the stakes could not be higher for India’s $50 billion pharmaceutical sector, which contributes nearly 1.72% to the nation’s GDP.**

- **Global pharmaceutical exports, valued at over $850 billion in 2024, thrive on aging populations, chronic diseases, and post-COVID-19 pandemic innovation.**

- **Germany ($119.85 billion), Switzerland ($99.08 billion), and the U.S. ($90.30 billion) were lead exporters in 2023-24, while the U.S. ($212.67 billion in imports in 2024), Switzerland, Germany, Belgium, and China top importers.**

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- **Tariffs threaten affordability, with U.S. cancer therapy costs potentially rising $8,000-$10,000 for a 24-week course, mirroring India’s 60% out-of-pocket burden.**
- **Generics, 80% cheaper, enable 20 million treatments yearly, though quality concerns and disruptions risk delaying surgeries by 15%-20%.**
- **U.S. tariffs risk causing shortages if India’s 40% generic supply frays. India must leverage MoUs, invest $10 billion in APIs via PLI 2.0, and push WTO reforms.**
- **With global pharma eyeing $450 billion for India by 2047, collaboration in the form of east-west hybrids, innovation, and equitable access is key. Policymakers must diversify boldly, reform swiftly, and secure India’s pharma supremacy.**

- **With an objective of making quality generic medicines available at affordable prices to all, Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) was launched by the Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers, Government of India in November, 2008.**

- **Under the scheme, dedicated outlets known as Janaushadhi Kendras are opened to provide generic medicines at affordable prices.**

- **As on 11.06.2025 more than 16000 Janaushadhi Kendras are functional across the country.**

- **Product basket of PMBJP comprises 2047 drugs and 300 surgical items.**

- **The Scheme is implemented by a society registered under the Societies Registration Act, viz., Pharma & Medical Bureau of India (PMBI) [erstwhile Bureau of Pharma PSUs of India (BPPI)].**

Mains Question

- India’s pharmaceutical sector plays an important role in ensuring affordable medicines and supporting economic growth.Discuss the key strengths and challenges of India’s pharmaceutical industry. Suggest measures to strengthen its global competitiveness.(250 words | 15 marks)

- भारत का औषधि (फार्मा) क्षेत्र सस्ती दवाओं की उपलब्धता और आर्थिक विकास में महत्वपूर्ण भूमिका निभाता है।भारत के औषधि क्षेत्र की प्रमुख शक्तियों और चुनौतियों पर चर्चा कीजिए। इसकी वैश्विक प्रतिस्पर्धात्मकता को मजबूत करने के उपाय सुझाइए।(250 शब्द | 15 अंक)

Page No.11 , GS 3

Ensuring that the value of all lives is the same

Shubham Kumar

Academic, lawyer and public policy consultant

Every year, on New Year's Eve, a revelry results in a number of road accidents across India. Some of these result in fatalities.

John Donne wrote, "Each man's death diminishes me, for I am involved in mankind." His words remind us that every death carries a weight greater than its statistics. Yet, when a family loses someone in a road accident, the language of justice turns into the language of arithmetic. The Motor Accident Claims Tribunal multiplies income by an age-based factor, adds modest sums for love, care, and funeral expenses, and announces the result as 'just compensation'.

What begins as a legal exercise often ends as a moral puzzle. A doctor and a homemaker may lose their lives in the same accident, yet the law values their absence differently. The doctor's family receives several lakhs of rupees more than the vendor's, and the homemaker's loss is often measured in token figures. The problem lies not in the intent of the law but in its method. A welfare statute that was meant to bring relief has quietly absorbed the habits of the marketplace, where worth is measured by earning, not by being.

The arithmetic of loss

Section 168 of the Motor Vehicles Act, 1988, empowers tribunals to award compensation that "appears to be just." To bring consistency, the Supreme Court in *Sarla Verma v. DTC* and later in *National Insurance Co. v. Pranay Sethi* introduced the multiplier method. The formula multiplies a victim's annual income by an age-based factor and adds fixed sums under standard categories such as loss of consortium, loss of estate, and funeral costs. The goal was fairness through uniformity.

In practice, uniformity has produced hierarchy. When a victim has no formal income, tribunals assign a "notional income," often a symbolic amount detached from real contribution. Children, homemakers, and informal workers are thus treated as marginal lives in the eyes of arithmetic. The *Supreme Court, in Kirti v. Oriental Insurance*, recognised unpaid domestic work as genuine labour and sought to correct the imbalance, but the structure remains tethered to income. In a system that counts only what can be measured, those who build, teach, care, and nurture are often valued least.

> When road accidents occur, the law insists on knowing one's income before assigning value to one's life. This violates the promise of equality and dignity

Article 14 of the Constitution promises equality before the law, yet a system that compensates the salaried more generously than the self-employed or the unwaged risks violating that promise. Equality cannot depend on economic visibility. Article 21, which protects the right to life with dignity, faces a similar tension. Dignity is intrinsic, not conditional. When compensation fluctuates with income, dignity becomes a privilege rather than a principle. The mason who built the city and the child who never drew a salary deserve recognition beyond their wage potential.

The contrast with other modes of transport is revealing. Under the Railways Act, 1989, the death of any passenger attracts a fixed sum of ₹8 lakh. Under the Carriage by Air Act, 1972, airlines pay a uniform amount for every deceased passenger. On the road, however, the law insists on knowing one's income before assigning value to one's life.

Even the notion of unlimited liability offers little comfort. Section 147 of the Motor Vehicles Act requires insurers to cover "the amount of liability incurred" for death or bodily injury. There is no statutory ceiling. In theory, the liability is unlimited. In reality, it remains bounded by income. The absence of a cap matters little when the base figure is drawn from an unequal scale.

The difficulty is not only procedural but philosophical. The American philosopher, Lon Fuller, described the inner morality of law as its duty to be coherent and fair. A formula that equates life with livelihood cannot satisfy either. The American legal philosopher and jurist, Ronald Dworkin, envisioned law as integrity, a system that treats every person with equal concern and respect. When tribunals attach greater value to some lives over others, they move from integrity to inequity. For the American philosopher, Martha Nussbaum, dignity lies in capability – the real freedom to live, love, and flourish. Income may enlarge these freedoms, but it cannot define them. The law, by tying worth to wages, narrows the meaning of both justice and life.

Towards a fairer formula

A fairer design must begin with a universal baseline. Every life should attract a fixed "dignity floor," an amount payable in every case of fatality or grievous injury, irrespective of income. Beyond that, income-linked additions can address actual financial loss, preserving fairness without eroding equality. The law should also carve out a separate category of "dignity damages" to recognise grief, companionship, and emotional harm. These amounts must evolve with inflation and social conditions. Equally important is the need for process reform. The Delhi High Court's Motor Accident Claims Annuity Deposit model, which integrates police, hospitals, and banks, shows that technology can deliver compensation swiftly and transparently.

Defenders of the current model often argue that compensation must restore dependents to their previous standard of living and that income is a neutral measure of loss. This reasoning fits private contracts better than public welfare. The goal of social law is not to mirror the market but to correct its distortions. A universal floor can guarantee recognition for all, while proportional increments can accommodate differences. In this balance between equality and equity lies the true meaning of 'just compensation.'

- **A doctor and a homemaker may lose their lives in the same accident, yet the law values their absence differently.**
- **The doctor’s family receives several lakhs of rupees more than the vendor’s, and the homemaker’s loss is often measured in token figures.**
- **The problem lies not in the intent of the law but in its method. A welfare statute that was meant to bring relief has quietly absorbed the habits of the marketplace, where worth is measured by earning, not by being.**
- **Section 168 of the Motor Vehicles Act, 1988, empowers tribunals to award compensation that “appears to be just.”**

- **To bring consistency, the Supreme Court in Sarla Verma v. DTC and later in National Insurance Co. v. Pranay Sethi introduced the multiplier method.**

- **The formula multiplies a victim's annual income by an age-based factor and adds fixed sums under standard categories such as loss of consortium, loss of estate, and funeral costs. The goal was fairness through uniformity.**

- **In practice, uniformity has produced hierarchy. When a victim has no formal income, tribunals assign a "notional income," often a symbolic amount detached from real contribution.**

- **Children, homemakers, and informal workers are thus treated as marginal lives in the eyes of arithmetic.**

- **Article 14 of the Constitution promises equality before the law, yet a system that compensates the salaried more generously than the self-employed or the unwaged risks violating that promise. Equality cannot depend on economic visibility.**

- **Article 21, which protects the right to life with dignity, faces a similar tension. Dignity is intrinsic, not conditional. When compensation fluctuates with income, dignity becomes a privilege rather than a principle.**

- **The contrast with other modes of transport is revealing. Under the Railways Act, 1989, the death of any passenger attracts a fixed sum of ₹8 lakh.**

- **Under the Carriage by Air Act, 1972, airlines pay a uniform amount for every deceased passenger. On the road, however, the law insists on knowing one's income before assigning value to one's life.**

Page No. 16, GS 3

DRDO carries out salvo launch of Pralay missiles

The Defence Research & Development Organisation (DRDO) carried out a salvo launch of two indigenous Pralay missiles from the same launcher on Wednesday. The test was held at around 10.30 a.m. off the coast of Odisha. The flight-tests were conducted as part of user evaluation trials. According to the Ministry of Defence, both missiles followed the intended trajectory and met all mission objectives, as confirmed by tracking sensors deployed by the Integrated Test Range (ITR), Chandipur. Terminal events were validated through telemetry systems on ships positioned near the designated impact points.

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- **Pralay is an indigenously developed solid propellant quasi-ballistic missile with advanced guidance and navigation systems for pinpoint accuracy.**
- **Pralay is a short-range surface-to-surface missile, with a payload capacity of 500 to 1,000 kg, and has a range of 150 to 500 km.**
- **The missile can carry multiple types of warheads and strike varied targets, enhancing flexibility and deterrence.**
- **Pralay was developed by Research Centre Imarat (Hyderabad) with major support from Pune-based DRDO labs.**
- **Quasi-ballistic missiles differ from traditional ballistic missiles by flying at lower altitudes and performing in-flight maneuvers, making them harder to intercept.**

Ballistic Missile vs Cruise Missile	
Ballistic Missile	**Cruise Missile**
▪ Travel in projectile motion and trajectory depends on gravity, air resistance and Coriolis Force.	▪ Comparatively follows a straight trajectory of motion.
▪ Leave the earth's atmosphere and re enter it.	▪ The flight path is within the earth's atmosphere.
▪ Long-range missiles (300 km to 12,000 km)	▪ Short range missiles (range upto 1000 km)
▪ E.g. Prithvi I, Prithvi II, Agni I, Agni II and Dhanush missiles.	▪ E.g. BrahMos missiles

Q. With reference to Agni-IV Missile, which of the following statements is/are correct? (2014)

1. **It is a surface-to-surface missile.**
2. **It is fuelled by liquid propellant only.**
3. **It can deliver one-tonne nuclear warheads about 7500 km away.**

Select the correct answer using the code given below:

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

Page No. 16, GS 2

Ban on oral formulations of nimesulide over 100 mg

Bindu Shajan Perappadan
NEW DELHI

The Union Health Ministry has banned oral formulation of nimesulide above 100 mg in immediate release form.

"Strengths below 100 mg or strengths above 100 mg in other types of release (such as sustained release, extended release) are not under this ban. Non-oral formulations like topical gels/creams or suppositories are also not banned," a senior Ministry official said.

Nimesulide is used for the treatment of acute pain.

Potential liver toxicity

Nimesulide is a non-steroidal anti-inflammatory drug used for its pain-relieving, anti-inflammatory, and fever-reducing effects. It is a prescription medication primarily intended for short-term, second-line treatment (when other medicines have failed) due to concerns over potential liver toxicity.

The Ministry has banned the manufacture, sale and distribution of the oral formulations citing serious risks to health, the official notification, issued earlier this week, said.

"The Central government is satisfied that the use of all oral formulations containing nimesulide above 100 mg in immediate release dosage form is likely to involve risk to human beings and that safer alternatives to the said drug are available," the notification said.

"Now, therefore, in exercise of the powers conferred by Section 26A of the Drugs and Cosmetics Act, 1940 and after consultation with the Drugs Technical Advisory Board, the Centre, hereby prohibits the manufacture, sale and distribution of the drug, with immediate effect," the notification said.

Fixed-drug combinations have gained widespread acceptance owing to their superior therapeutic effectiveness, reduced patient cost compared to single-drug therapies, and improved adherence.

According to the product characteristics summary, nimesulide is approved for the treatment of acute pain, symptomatic relief in painful osteoarthritis, and primary dysmenorrhea.

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Copper

- **opper prices touched a record high of over USD 12,000 per tonne in 2025, driven by US tariff uncertainty, global supply disruptions and surging demand from AI, clean energy and EVs.**

- **Copper (Cu) is a naturally occurring metallic element (Atomic number: 29) known for its excellent electrical and thermal conductivity.**

- **It is among the oldest metals used by humans and is central to modern industrial, digital and green economies.**

- **Symbol: Cu and Atomic weight: 63.546 amu**
- **High resistance to corrosion and oxidation**
- **Forms important alloys such as brass (Cu+Zn) and bronze (Cu+Sn)**

- **Physical characteristics:**
- **Excellent electrical and thermal conductivity (second only to silver)**
- **Ductile and malleable, enabling easy wiring and shaping**
- **Naturally reddish-brown; one of the few coloured metals**

- **Unique properties:**
- **100% recyclable without loss of quality**
- **Antimicrobial in nature, useful in healthcare settings**
- **Enhances energy efficiency, reducing CO_2 emissions over product life cycles**

- **India and Copper: Current Status**
- **India is recognised copper as a critical mineral under its resource strategy.**
- **Over 90% dependence on imported copper concentrate**
- **Major producers across globe: Chile, Peru, DR Congo, China, USA**

- **Applications of Copper:**

- **Energy and power sector: Used extensively in power grids, transformers, renewable energy systems, and battery storage.**
- **Electric vehicles (EVs): EVs use over twice the copper of conventional vehicles due to motors, batteries and wiring.**
- **Digital and AI infrastructure: Data centres, especially hyperscale AI facilities, require massive copper volumes for cooling and power transmission.**
- **Construction and manufacturing: Plumbing, roofing, industrial machinery and electronics rely heavily on copper.**
- **Defence and healthcare: Used in defence electronics, ammunition and antimicrobial medical surfaces.**


Thank You!