



THE HINDU



GS Paper 2-Governance

New immigration Bill seeks to tighten existing regulations

Devesh K. Pandey

NEW DELHI

The Immigration and Foreigners Bill, which was introduced in the Lok Sabha on Tuesday, is aimed at consolidating four existing inter-linked laws, adding more teeth to the existing rules for visiting foreigners, and raising the penalties

A host, who may also be the owner of a private home, must provide various details to the FRRO

private home, must provide all these details to the FRRO, which can probably be done online. This pro

KEY POINTS

The Immigration and Foreigners Bill, introduced in the Lok Sabha, consolidates four existing immigration laws and strengthens rules with higher penalties. Key provisions include placing the burden of proof on individuals to prove their foreign status, requiring hosts to register foreign tourists, and making carriers responsible for removing violators.





GS Paper 3-Science and Tech

New, greener electrochemical process turns urine into plant fuel

The process, described in *Nature Catalysis*, proposes to convert urea, a nitrogen-rich compound in urine, into a crystalline peroxide derivative called percarbamide. Thus, it strikes two targets at once: enabling the treatment of urine in urban wastewater and transforming it into a useful resource

Sanjivita Mondal

In the 17th century, a German alchemist named Hennig Brand was on a quest to find the "philosopher's stone," a mysterious object that could turn any ordinary metal into gold. When he realised the golden colour of urine, he believed it contained tiny particles of the precious metal.

Brand then collected urine from himself, his family, and beer drinkers at his local pub and began distilling it in the hope of finding gold at the end. There was no gold, alas, but the silver lining was that Brand discovered the element phosphorus.

In fact, some call urine "liquid gold" because it is loaded with elements that plants desire. The waste product is packed with phosphorus, potassium, and nitrogen in the form of urea, the "Big Three" nutrients that fuel plant growth and form the backbone of commercial fertilisers.

Two birds, one stone
A new electrochemical technique



A farmer sprays urea on a crop of finger millet on the outskirts of Bengaluru.

with processes that can extract urea alone from wastewater, she said. The team's study claims to have jumped this barrier.

Percarbamide is known for its ability to steadily release active oxygen, making it a valuable

hydrogen ions (H⁺) and triggers a reaction to form percarbamide in the presence of a catalyst that enhances hydrogen bonding.

THE GIST

Urine is known as "liquid gold" It is packed with phosphorus, potassium, and nitrogen in the form of urea, the "Big Three" nutrients that fuel plant growth and form the backbone of commercial fertilisers

An adult produces 450-650 litres of urine, which is 95% water, yet the annual output also contains around 4 kg of nitrogen and 0.3 kg of phosphorus, enough to grow wheat for one loaf of bread every day for a whole year

Researchers found they could maximise percarbamide production by holding the concentration of urea between 15% and 30%. When the solid product is used as fertiliser, nitrogen is released slowly, it also promotes root



KEY POINTS

Researchers developed an electrochemical technique to extract urea from urine, which is rich in nutrients like nitrogen, phosphorus, and potassium, making it valuable for plant growth. Urea is converted into percarbamide, which, when used as fertilizer, releases nitrogen slowly, promoting crop growth and completing the nitrogen cycle.





THE HINDU



GS Paper 3-Science and Tech

Lie detectors: reading your vitals



Q: How does a lie detector work?

A: A polygraph, also called a lie-detector test, is generally used

during interrogation by police. The instrument works by recording physiological functions such as blood pressure, heartbeat, respiration, and perspiration. A pneumograph tube is fastened around the person's chest, and a blood-pressure-pulse cuff is strapped around the arm. The psychogalvanic skin reflex, an electro-dermal response, and the flow of current between different parts of the body are also measured. Sensitive electrodes are used to pick up the impulses, which are



A person undertakes an early version of the polygraph test.
US FBI

are ineffective, unreliable, and easily overcome. The modern polygraph was first constructed in



KEY POINTS

A polygraph, or lie-detector test, measures physiological functions like blood pressure and respiration to detect lies. Developed in 1921 by John Larson, it is now considered unreliable and easily manipulated, and is not accepted as courtroom evidence.





GS Paper 2-Health

Building compassion into the health-care structure

On February 7, 2025, the World Health Organization (WHO) released a report, “Compassion and primary health care”, which recognises compassion as a transformative force in primary health care. The Director-General of WHO, Dr. Tedros Adhanom Ghebreyesus, has called for an exploration of the role of compassion in global health, with specific attention to its impact on the quality of health-care services and its connection to primary health care.

Based on my personal experiences of interacting with pioneers in the medical field, and available evidence I can say with confidence that the report gives a big push to advocating compassionate health care. In the 74th World Health Assembly in 2021 and several other WHO and United Nations forums, I gave a clarion call to globalise compassion in health care. And, I am finally noticing that the world is waking up to the necessity of compassion.



Kailash Satyarthi

is a Nobel Peace Laureate and Founder, Satyarthi Movement for Global Compassion

they experience reduced stress, improved job satisfaction, and build stronger relationships with their patients, which is essential for providing high-quality care.

Terms and the differences

Let us not mistake compassion with sympathy, empathy and kindness, terms which are often used interchangeably. Sympathy is a pity-based momentary response, while empathy is when people immerse themselves in others’ problems and they get overwhelmed in the process. Health-care workers who operate with empathy can experience anxiety, exhaustion, and sometimes depression when they internalise the anguish of their patients. Along with demanding work hours, the stress can lead to empathy fatigue and further degrade the quality of care to patients.

On the other hand, compassion is about mindful problem-solving. A compassionate health care provider will have the emotional

the long-term rehabilitation centre at my organisation, Satyarthi Movement for Global Compassion, he could barely speak.

All children who come to Bal Ashram experience trauma, so we never coax them to speak or open up about their past. The teachers and caregivers who are trained in compassion in action at Bal Ashram are very sensitive towards the needs of the children, and that is how we see remarkable results. Pradeep’s transformation was also miraculous. Soon after he arrived at Bal Ashram, he made friends, would open up, and began to narrate his story.

This is what true compassion is, and my philosophy of compassion has always been rooted in transformative actions. To me, compassion is when we feel the suffering of others as our own and act to solve it.

We need to recognise that health care is not just about treating illnesses but also promoting the overall well-being of individuals. So, how can medical professionals incorporate compassion



KEY POINTS

The WHO's 2025 report highlights compassion as crucial in primary healthcare, benefiting both patients and providers. It advocates for globalizing compassionate healthcare through awareness, training, and equitable access.





GS Paper 3-Economy

Is rising consumer credit cause for concern?

A recent report by the RBI highlights the shift towards healthy and prime borrowers in the economy. However, the fact that there is a significant amount of borrowing being done for the purpose of consumption is a cause for concern, signalling macroeconomic weaknesses in the economy

ECONOMIC NOTES

Rahul Menon

The release of the Financial Stability Report (FSR) 2024 by the Reserve Bank of India (RBI) has called attention to the question of household finances and consumption loans. The stock of household debt has shown a gradual increase, rising from 36.6% of GDP in June 2021 to 41% in March 2024. According to the FSR, it has risen to 42.9% in June 2024. Even though household debt in India is lesser than most emerging market economies, the rise in household debt-to-GDP ratio is of concern.

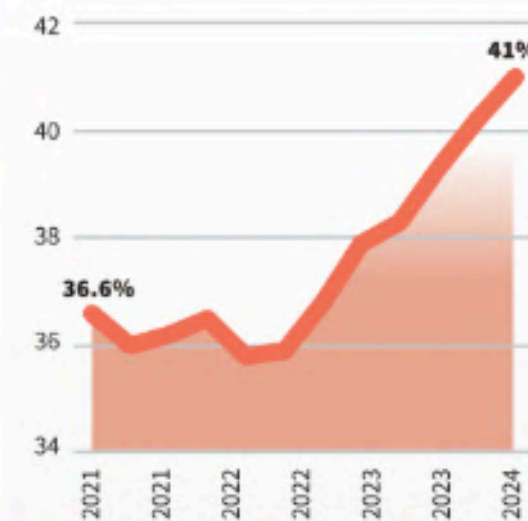
Debt is largely taken to build up

Rising debt

Data from the Reserve Bank of India's Financial Stability Report 2024 shows that household debt has gradually increased to concerning levels. On the other hand, household assets have fallen

Financial liabilities (% of GDP)

The stock of household debt has shown a gradual increase, rising from 36.6% in June 2021 to 41% in March 2024



THE GIST

The RBI presents data to indicate that rising borrowing is being driven by an increase in the number of borrowers rather than rising indebtedness. Secondly, the proportion of sub-prime borrowers has been reducing.

Rising stresses in unsecured loans can spell weaknesses for higher-value loans.

The rise in borrowing for consumption specifically



KEY POINTS

The RBI's FSR 2024 shows rising household debt in India, from 36.6% of GDP in 2021 to 42.9% in 2024. While borrowing is shifting to prime borrowers, growing consumption loans, especially among lower-income households, pose macroeconomic risks by lowering economic growth and increasing financial stress.



The logo for The Indian Express, consisting of a red stylized flame icon followed by the text 'The Indian EXPRESS' in a serif font.

GS Paper 3-Environment

Delhi world's most polluted capital again; pollution cuts life expectancy in India by 5 years: Report

Delhi as World's Most polluted Capital: Thirteen of the 20 most polluted cities in the world are in India, with Byrnihat on the Assam-Meghalaya border topping the list, according to the 2024 World Air Quality Report.

KEY POINTS

1. The World Air Quality Report 2024 reveals that Asia has the highest AQI levels, with Bangladesh, Pakistan, and India facing the worst air quality. India had 92 of the top 100 most polluted cities globally. Only 11.7% of cities met WHO's PM2.5 guidelines, with Asia exceeding safe limits in 97.7% of cities. Oceania had the cleanest air.



The Indian EXPRESS

GS Paper 2-IR

EXPLAINED GLOBAL

WHY FORMER PHILIPPINE PRESIDENT RODRIGO DUTERTE WAS ARRESTED

FORMER PHILIPPINES President Rodrigo Duterte was arrested on Tuesday on a warrant issued by the International Criminal Court (ICC), which was investigating allegations that "crimes against humanity" were committed during his so-called "war on drugs".

The ICC, which has 125 countries as its members, has international jurisdiction over four types of crimes: crimes against humanity, genocide, crimes of aggression, and war crimes. It can step in when countries are unwilling or unable to prosecute suspects for these crimes.

Allegations against Duterte

Before becoming President in 2016, Duterte was the mayor of Davao, a sprawling southern metropolis, for 22 years, and



Rodrigo Duterte during a speech in the Philippines in 2021. Reuters

in 2019. The international court first took note of the alleged abuses in 2016, and started its investigation in 2021. It covered cases from November 2011, when Duterte

KEY POINTS

- Former Philippine President R was arrested following a warrant from the International Criminal Court (ICC) investigating alleged "crimes against humanity" during his "war on drugs."
- The ICC, established in 1998, prosecutes crimes like genocide and war crimes. It has 125 members but excludes key countries like the U.S., India, and China. It relies on member states for arrests and enforcement, handling cases when countries fail to prosecute.

