The Hindu Important News Articles & Editorial For UPSC CSE

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The Indian Army is set to receive its first batch of three AH-64E Apache helicopters in December after a six-month delay due to supply chain issues.

➡️ Additionally, the indigenous Light Combat Helicopter (LCH) will be deployed in Ladakh next year, designed specifically for high-altitude operations.

Army to receive Apache choppers in Dec.; deploy LCH in Ladakh next year

Dinakar Peri
NEW DELHI/LEH

After a delay of more than six months, the Army is set to receive the first batch of three AH-64E Apache attack helicopters from Boeing in December.

While the Apaches are for the deserts, the Army is set to deploy the indigenous light combat helicopter (LCH), manufactured by Hindustan Aeronautics Ltd., in Ladakh next year.

"The manufacturer has communicated that there have been manufacturing delays due to supply chain issues. The first batch of three Apaches is now set to be delivered in December and the next three a few months after that," a defence source said. As per the original schedule, three helicopters were sup-

The light combat helicopter is specifically designed for high-altitude conditions, while the Apache is meant for deserts. ANI

posed to be delivered in May and three in July.

The issue of delays was taken up with the U.S. at the political level and it was requested to prioritise the deliveries, the source added. Defence Minister Rajnath Singh was on an official visit to the U.S. in August.

On the LCH, a second source said the plan was to

deploy them in Ladakh in 2024-25. The Apaches are ideal for countering armour and would be deployed in the deserts, another official said, adding that their capability gets limited in high altitudes due to their operational envelope. The LCH is specifically designed for high-altitude conditions, the official added.

In March, the Army Aviation formally raised the 451 Aviation Squadron at Jodhpur that would operate the Apaches. The Apaches would be the second attack helicopters in the Army after the indigenous LCH.

India signed a deal with Boeing for six Apaches, for the Army, at a cost of around $800 million in February 2020. As part of the deal, six pilots and 24 technicians were trained by Boeing in the U.S.

The Army Aviation, which has for long operated utility helicopters, inducted its first dedicated attack helicopter with the LCH and the first squadron, 351 Army Aviation, was moved to Missamari, Assam in the Eastern sector near the Line of Actual Control in November 2022.

Apache Helicopter (AH-64E):

➡️ **Origin:** Developed by Boeing, USA.

➡️ **Type:** Attack helicopter designed for multi-role combat.

➡️ **Specifications:** Twin-engine, four-blade rotor; max speed of 279 km/h.

➡️ **Advanced Systems:** Equipped with modern avionics, target acquisition systems, and night-vision capabilities.

➡️ **Role:** Used for close air support, anti-armor operations, and armed reconnaissance.

➡️ **Deployment in India:** India signed a deal with Boeing for six Apaches, for the Army, at a cost of around $800 million in February 2020.

Indigenous Light Combat Helicopter (LCH):

➡️ **Origin:** Designed and developed by Hindustan Aeronautics Limited (HAL), India.

➡️ **Type:** Multi-role light attack helicopter.

➡️ **Specifications:** Twin-engine, max speed of 268 km/h, 5.8-ton weight.

➡️ **Armament:** Equipped Mistral air-to-air missiles, 20mm turret gun, and rockets.

➡️ **Role:** Specifically built for high-altitude warfare, ideal for operations in places like Ladakh and Siachen.

➡️ **Unique Capability:** Can perform in extreme cold and high-altitude areas (up to 16,000 feet).

The Indian Railways has initiated a plan to replace ageing signalling systems that have exceeded their operational lifespan, addressing safety concerns following recent train accidents.

➡️ The "Plan for Reliability Improvement and Maintenance Effectiveness (PRIME)" aims to enhance reliability, reduce cable cuts, and improve staff training to prevent future incidents and ensure safe train operations.

Indian Railways to overhaul ageing signalling systems for better safety

S. Vijay Kumar
CHENNAI

Worried over many signalling systems remaining functional beyond their recommended lifespan, the Indian Railways has decided to replace signal assets that have outlived their codal life.

In a directive to the General Managers of all Zonal Railways, the Railway Ministry emphasised the urgent need to prioritise the replacement of signal assets nearing or surpassing their codal life. To avoid delays, this critical work would be carried out independently, without impacting the ongoing infrastructure projects, including track doubling and the construction of third or fourth lines.

By rolling out a "Plan for Reliability Improvement and Maintenance Effectiveness (PRIME)", the Rail-

Safe journey: The Railways aims at improving the reliability and maintainability of the signalling systems. V. GANESAN

ways aims at improving the reliability and maintainability of the signalling systems, which were vital for safe train operations. The plan underscores the need for regular staff training and counselling on safety and maintenance protocols to ensure high standards of work quality.

A key issue highlighted by the Ministry is the frequent occurrence of cable

cuts along railway tracks, which had led to multiple signalling failures.

These disruptions not only hampered train operations but posed serious safety risks, potentially resulting in catastrophic accidents.

Recent train collisions
According to senior Railway officials, the renewed focus on safety came in the

wake of several major train accidents over the past two years, including the tragic triple train collision in Odisha's Balasore district on June 2, 2023, which claimed 291 lives and left over 900 injured. Faulty signals were suspected to have led to the devastating accident.

Also, in the two major rear-end collisions, one in the Waltair Division of East Coast Railway and the other in the Katihar Division of Northeast Frontier Railway, in the past one year, lapses in managing train operations in automatic signalling territory were cited as reasons for the accidents.

To address these issues, the Railways instructed training centres to provide special focus on acquainting and training of staff of all departments concerned on new systems that are coming up.

Ageing Signalling System in Indian Railways:

➡️ **Ageing Infrastructure:** Several signalling systems in the Indian Railways have outlived their recommended codal life, leading to increased failures and safety risks.

➡️ **Impact on Operations:** Ageing signals have caused disruptions, such as delays in train operations, posing potential risks of accidents.

➡️ **Recent Accidents:** Notable accidents, including the Balasore triple train collision (June 2023), which killed 291 people, have been linked to signalling failures. Other rear-end collisions in Waltair and Katihar divisions also highlight this concern.

Future Steps Taken by Indian Government:

➡️ **Replacement of Outdated Signal Assets:** The Indian Railways has initiated the replacement of signalling systems that have outlived their codal life to enhance operational safety.

➡️ **PRIME Initiative:** A "Plan for Reliability Improvement and Maintenance Effectiveness (PRIME)" was rolled out to improve the reliability and maintainability of signalling systems.

➡️ **Staff Training:** Special focus on training staff across departments on the new systems and safety protocols to ensure operational efficiency.

➡️ **Cable Cut Prevention:** Addressing frequent cable cuts along tracks to minimise signalling failures, a key cause of disruptions.

➡️ **Safety Emphasis:** Railway Ministry prioritises the independent execution of these replacements without affecting ongoing infrastructure projects, ensuring swift modernization.

➡️ **Accident Prevention:** The overarching goal is to minimise accidents through upgraded signalling technology and improved operational protocols.

Page 07 : Prelims Fact

A recent study reveals that the moon may have had volcanic activity as recently as 120 million years ago, challenging previous beliefs that it ceased around a billion years ago.

➧ Researchers analysed lunar glass beads from the Chang'e-5 mission, indicating ongoing volcanic processes despite the moon's cooling interior.

Beads on the moon suggest it had volcanoes more recently than thought

The findings are based on China's Chang'e-5 mission and raise a new mystery that future missions could help answer. For example, Chandrayaan-4 is poised to conduct on-site sampling and analysis of lunar materials, which may include rocks from volcanic periods in the moon's history

Tejasri Gururaj

Scientists widely believed volcanic activity on the moon ceased about a billion years ago. A study published in *Science* on September 5 called this idea into question with evidence suggesting the moon had active volcanoes as recently as 120 million years ago.

The moon's volcanic activity sheds light on how its surface was formed, its atmospheric conditions, and its tectonic activity. Volcanoes can also create conditions suitable for life by releasing water and providing energy and nutrients. More recent research using remote-sensing data from satellites has found signs of volcanic activity from around 800 million years ago, but no exact date for the activity itself.

Researchers behind the new study, led by Bi-Wen Wang of the Chinese Academy of Sciences, investigated moon samples collected by China's Chang'e-5 mission.

They focused their analysis on lunar glass beads – small spherical or egg-shaped glass pieces formed by volcanic activity or impact events like when rocks from space smash the moon's surface.

The moon-made specks

The way high-energy events create glass beads on the moon is similar to how tektites formed from impacts and volcanic rock (like obsidian) from eruptions on the earth.

In volcanic eruptions, magma from the moon's surface throws up lava fragments. When these fragments cool quickly, they form the beads.

Likewise, the surface rock and soil melt under the intense pressure and heat produced by asteroid or meteorite impacts. The melted material is tossed into the air, where it rapidly cools and lands on the surface as glassy beads.

The materials thrown into the air are spherical because they take the least amount of energy to form.

This is also why water droplets are spherical in space or egg-shaped on the earth, where gravity stretches them a little.

The glass beads' atoms are arranged in a haphazard manner. They're composed of silicon, magnesium, and iron with trace amounts of potassium, titanium, and uranium.

A volcano within a bead

Volcanic glass beads are typically more uniform, while impact beads may display shock features like fractures or deformations.

Nonetheless, identifying how some beads originated is challenging because they are derived from similar rocks.
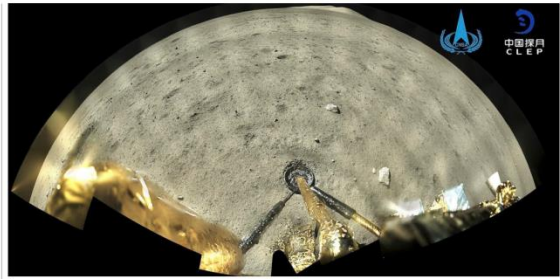
The presence of elements from an impactor that are no longer found on the moon's surface is another characteristic of impact glass beads. Volcanic glass beads, on the other hand, can have greater amounts of volatile elements, including sulphur emitted during eruptions.

None of these criteria are conclusive by themselves: scientists use many of them together to ascertain a bead's origins.

The samples collected by Chang'e-5 were from Statio Tianchuan, near the volcanic complex Mons Rümker and part of a terrain known for its elevated heat-producing elements, thin crust, and prolonged volcanic activity.

The researchers analysed more than 3,000 bead samples, examining their physical features to look for patterns that would reveal clues to their origins.

They also studied the samples' chemical composition to identify the most and least abundant elements present and compared them to known impact and volcanic glass compositions.

The team also looked out for evidence of incomplete melting, a characteristic of asteroid or meteorite impact.

Two and two together

From the 3,000 samples, the researchers shortlisted 13 for sulphur isotope analysis.

Isotopes are atoms of the same element that have an equal number of protons in their nuclei but different numbers of neutrons. Isotope analysis reveals the various quantities of isotopes in a sample. The researchers compared the sulphur isotope ratios in the beads with established values from older samples. This approach provides insights into a substance's origin

The samples collected by Chang'e-5 were from Statio Tianchuan and part of a terrain known for its elevated heat-producing elements, thin crust, and prolonged volcanic activity

and the processes that helped form it.

The researchers' analysis revealed that three of the 13 samples were from volcanic activity.

Then they used the uranium-lead radiometric dating method to accurately date the materials present in these samples. The method works by assessing the quantity of uranium isotopes that have decayed to lead isotopes, which happens at a predictable time-rate.

They determined the ages of the three volcanic samples to be 116-135 million years. The composition of the glass beads also indicated they came from a magmatic source.

While the age of the volcanic samples overlapped with those of impact glass beads collected by Chang'e-5, additional evidence based on mineral composition, sulphur isotope ratios, and lead isotopes pointed to a volcanic origin for the three beads.

Ergo, the moon may have had volcanic activity 116-135 million years ago.

A mystery erupts

The researchers' use of sulphur isotope ratios was novel.

Sulphur isotopes aren't commonly used to identify the origin of materials on celestial bodies. Scientists instead rely on techniques based on carbon, oxygen, and lead. But volcanic activity makes sulphur a better choice primarily because it releases sulphur dioxide gas.

The research team also showed the moon was volcanically active as recently as 120 million years ago, refuting previous claims. The three volcanic glass beads contained high concentrations of potassium, rare earth elements, phosphorus, sodium, and thorium, suggesting the source was rich in these elements.

According to the researchers, the presence of these minerals in the glass beads suggests they played a role in causing lunar volcanic activity by producing the heat required for an eruption.

Chances for Chandrayaans

We now have a new question: even as the moon's interior cooled and its lithosphere thickened, how did volcanic activity continue for such a long time?

Future Chandrayaan missions could help answer this question. Chandrayaan-4 is poised to conduct on-site sampling and analysis of lunar materials, which may include rocks from volcanic periods in the moon's history.

The Chandrayaan missions are also set to explore the lunar poles. This could help scientists study preserved lunar ice that may hold gases released during ancient volcanic eruptions.

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THE GIST

The moon's volcanic activity reveals how its surface formed, its atmospheric conditions, and tectonic activity. Remote-sensing data has found signs of volcanic activity from 800 million years ago, but no exact date for the activity itself.

Researchers focused on lunar glass beads — small glass pieces formed by volcanic activity or impact events like when rocks from space smash the moon's surface. Volcanic beads are uniform, while impact beads may display shock features like fractures

The ages of the three volcanic samples were determined to be 116-135 million years. While the age overlapped with those of the impact beads, other evidence pointed to a volcanic origin

This December 2020 image taken by a panoramic camera onboard the lander-ascender combination of Chang'e-5 spacecraft shows a patch of the lunar surface after it landed on the moon. AP

Analysis of the news:

➧ Researchers from the Chinese Academy of Sciences analysed lunar glass beads collected by the Chang'e-5 mission, focusing on their formation from volcanic eruptions and impacts.

➧ The study identified specific glass beads indicative of volcanic origins through their chemical composition and unique isotopic signatures.

➧ Three volcanic samples were accurately dated using uranium-lead radiometric dating, revealing ages between 116 and 135 million years.

➧ The presence of minerals like potassium and rare earth elements in the beads indicates they contributed to the volcanic heat necessary for eruptions.

➧ The findings open new avenues for research, particularly regarding how volcanic activity persisted despite the moon's cooling interior.

➡ Future Indian Chandrayaan missions may further explore the moon's volcanic history and search for preserved lunar ice that may contain gases from past eruptions.

Retractions in scientific literature are increasing due to misconduct, errors, and the influence of paper mills.

➡️ Retraction cases highlight a crisis in research integrity, with significant implications for trust in scientific findings.

➡️ Addressing the causes and improving oversight are essential for maintaining the credibility of academic work.

What are retractions and why do they matter?

What is a retraction index? Why do researchers use potentially duplicated or manipulated work?

Atanu Biswas

The story so far:

According to the 'Retraction Watch' database, an Indian scientist at an institute in Lucknow has racked up 45 retractions. It also states that another researcher at a university in Kolkata published 300 scientific papers in a year, which is nearly a paper a day and impossible. This individual had six papers retracted, which cover an array of disciplines including chemistry and virology. Paper retractions are becoming more common worldwide even as the research misconduct problem is worsening in India.

What are retractions?

A retraction is a mechanism that kicks in when a scientific paper published in an academic journal is found to be so flawed as to merit being removed from scientific literature. The academic community is often understanding when a paper is retracted for an honest error but much less forgiving when a paper is pulled because it contains deliberately manipulated material. For example, the case of John Darsee, a young Harvard University cardiology researcher, stunned the academic community in the 1980s. He had over 80 papers retracted for spreading "inaccuracies and falsehoods".

Scientific fraud is surprisingly endemic: the list with Darsee includes Jan Hendrik Schön, Brian Wansink, Hwang Woo-suk, and of recent Ranga Dias as well, among others. Even Nobel laureates are not spared. Gregg Semenza, a professor at Johns Hopkins University and winner of the 2019 medicine Nobel Prize, has had 12 papers retracted over potentially duplicated or manipulated images.

How often are papers retracted?

Between 2020 and 2022, 2.5 times more papers were retracted than they were between 2017 and 2019. The reasons for retraction include plagiarism, editorial conflicts, image manipulation, and the use of paper mills. During the COVID-19 pandemic, many publishers had fast-tracked the peer-review process for papers they received from scientists. As a result, some 10,000 papers had to be retracted in 2023 because of quality and/or data issues. The number was only around 1,600 in 2013. In 2023, a German neuropsychologist named Bernhard Sabel published the results of using a fake-paper detector he had built: he found that a third of 5,000 neuroscience papers published in 2020 likely had plagiarised and/or falsified content.

What is the retraction index?

A journal's retraction index is the the number of retractions in a given time period multiplied by 1,000 and divided by the total number of published articles, according to a definition provided by scientists Ferric Fang and Arturo Casadevall in a September 2011 paper. They also showed that there's a greater chance of a paper being retracted from a high-impact journal than from a low-impact one. 'Impact' refers to the impact factor: the average number of times a paper was cited in last two years.

Why do scientists falsify papers?

Paper mills are enterprises that churn out fake or low-quality journal papers and sell them to scientists. Thousands of papers published in academic journals worldwide have been linked to Russian, Iranian, and Chinese paper mills.

One reason they're becoming more prevalent is because of research institutes' desire to improve their national and international university rankings, where the primary criterion is research output. In today's academic setting, one's paper count can determine one's chances of being promoted, securing grants and getting awards. PhD students are sometimes required to publish papers to graduate. This "publish or perish" culture encourages paper mills.

Misconduct makes scientists lose trust in one another and in literature. In a 2000 article in the journal *Nature*, H.N.J. Arst wrote, "All honest scientists are victims of scientists who commit misconduct." Retractions are thus a way for science to correct its mistakes.

Reducing the prevalence of misconduct is an open problem in research policymaking. It needs to answer questions like: can journals detect bad papers with AI and what is a way to evaluate research quality over quantity?

Atanu Biswas is professor of statistics, Indian Statistical Institute, Kolkata.

THE GIST

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What is Retraction?

➡️ Retraction is a formal withdrawal of a published scientific paper from academic literature due to significant errors, misconduct, or fraudulent data.

➡️ It serves as a mechanism for correcting the scientific record, maintaining accountability, and preserving the integrity of research.

➡️ Retractions are issued when the findings are deemed unreliable, ensuring that the academic community recognizes the flaws and preventing the dissemination of misleading or inaccurate information.

What is the Retraction Index?

➡️ The retraction index measures the frequency of retractions within a specific time frame relative to the total number of published articles.

➡️ It is calculated by multiplying the number of retractions by 1,000 and dividing by the total articles published, with higher-impact journals exhibiting a greater likelihood of retractions.

Why Do Scientists Prefer Retraction?

➡ Researchers may opt for retraction when errors are identified to maintain scientific integrity and accountability.

➡ Retractions allow for corrections in the scientific record, serving as a mechanism for self-regulation within the academic community.

Impact of Retraction

➡ Retractions can severely damage reputations, funding opportunities, and institutional credibility.

➡ They create mistrust among scientists and in the scientific literature, affecting the broader perception of research reliability.

➡ The increasing rate of retractions indicates a growing concern about the quality and ethics of scientific research.

How Can We Control This?

➡ To mitigate retractions, there is a need for better oversight and rigorous peer-review processes in academic publishing.

➡ Implementing training on research ethics and integrity for researchers can help reduce instances of misconduct.

➡ Journals could leverage technology, such as AI, to detect potential issues in submitted papers before publication.

➡ A shift in academic culture from "publish or perish" to valuing quality over quantity in research outputs may also curb the prevalence of retractions.

The Bombay High Court ruled the government's Fact-Checking Unit unconstitutional, criticising its vague terminology and potential for censorship.

➡️ This ruling raises important questions about the balance between combating misinformation and safeguarding freedom of speech and expression in India, prompting a reevaluation of the government's approach to online content regulation.

Why the 'fact-checking' unit was invalidated

Why did the Bombay High Court strike down as "unconstitutional" the amended Information Technology (IT) Rules, 2021? What did the amended rules ask of social media intermediaries? How did the Supreme Court intervene in the matter?

EXPLAINER

Aaratrika Bhaumik

The story so far:

On September 20, the Bombay High Court struck down as "unconstitutional" and "vague" the amended Information Technology (IT) Rules, 2021, which empowered the Centre to establish a "Fact Check Unit" (FCU) to identify "fake or false or misleading" online content about the government and its establishments. Justice Atul Sharachchandra Chandurkar delivered the verdict as the "tie-breaker" judge after a division Bench comprising Justices G.S. Patel and Neela Gokhale pronounced a split verdict in January, 2024.

What was the law under challenge?
The Ministry of Electronics and IT (MEiTY) introduced the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023 (2023 Rules), amending the 2021 IT Rules.

This amendment vested the Union government with the authority to establish a fact-checking body empowered to classify any information "pertaining to the business of the Central government" as "fake, false, or misleading".

The amended Rule 3(I)(b)(v) specifically required social media intermediaries to make "reasonable efforts" to prevent users from uploading or transmitting any content flagged by the Centre's FCU as misinformation. Such flagged content would have to be taken down within 36 hours if the intermediaries wanted to retain their "safe harbour" protection – a form of legal immunity against any third-party content hosted by them. Within a week of their notification, the constitutional validity of the 2023 Rules was challenged before the High Court by Kunal Kamra, a political satirist and standup artist, the

GETTY IMAGES

Editors Guild of India, and the Association of Indian Magazines.

What did the split verdict stipulate?
Justice Patel opined that the amended rules promoted censorship and did not fall within the ambit of reasonable restrictions permitted under Article 19(2) of the Constitution. He underscored that the absence of procedural safeguards or guidelines effectively made the Union government a "judge in its own cause". In contrast, Justice Gokhale reasoned that the government is best positioned to provide accurate information about itself and that the rules were intended solely to combat misinformation, without restricting legitimate criticism or political satire. She also dismissed allegations of bias by asserting that the mere fact that the FCU members were appointed by the

government did not undermine their independence.

Did the Supreme Court intervene?
Following the split verdict, the Chief Justice of the High Court appointed Justice Chandurkar to hear the matter afresh and deliver a tie-breaking ruling, in accordance with the High Court rules. Subsequently, the petitioners filed applications seeking an interim stay on the notification of the FCU until the matter was finally adjudicated. However, Justice Chandurkar dismissed these applications on the ground that no *prima facie* case was made out to stall the establishment of the body.

On March 20, 2024, the Centre notified the FCU under the Press Information Bureau (PIB). However, the very next day, the Supreme Court stayed the operation

of the notification until Justice Chandurkar took a final call on the validity of the amended rules. It reasoned that the challenge raised "serious constitutional questions" relating to the fundamental right to freedom of speech and expression.

What did Justice Chandurkar rule?
Endorsing Justice Patel's view, Justice Chandurkar observed that the amended rules suffer from manifest arbitrariness and sought to impose restrictions on freedom of speech and expression beyond those defined under Article 19(2) of the Constitution. He noted that the expressions "fake, false or misleading" within the rules are "vague and overbroad", leaving ample room for potential misuse.

Highlighting that there was no clarity on how the FCU would identify any information to be patently false or misleading, the judge asserted that the "exercise would result in an unilateral determination by the executive itself". He also refused to accept the Centre's claim that the Rules would exclude political comments and satire by reasoning that "any assurance from one Government even if carried out faithfully would not bind a succeeding Government."

Notably, Justice Chandurkar observed that the mere ability of an aggrieved person to challenge FCU decisions in a constitutional court could not be regarded as an adequate safeguard. He accordingly concluded that the amended rules were liable to be struck down, as they created a "chilling effect" on intermediaries by jeopardising their safe harbour protection.

What happens next?
The Union government is likely to appeal the decision before the Supreme Court especially since the 2021 IT Rules are currently under challenge before the Delhi High Court and the Madras High Court. The ruling will also impact the legitimacy of similar fact-checking units established in Tamil Nadu and Karnataka.

THE GIST

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Fact-Checking Unit (FCU)

➡️ The Fact-Checking Unit (FCU) was established under the amended Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023.

➡️ It empowered the Union government to designate any information regarding its operations as "fake, false, or misleading."

➡ Social media intermediaries were mandated to take "reasonable efforts" to prevent users from uploading flagged content and required to remove such content within 36 hours to maintain safe harbour protection against liability for third-party content.

Court's Invalidation Rationale

➡ On September 20, 2024, the Bombay High Court ruled the FCU and amended rules as unconstitutional and vague.

➡ Justice Atul Sharachchandra Chandurkar articulated that the rules exhibited manifest arbitrariness, infringing upon the fundamental right to freedom of speech and expression protected under Article 19(2) of the Constitution.

➡ The terms "fake, false, or misleading" were criticised for being overbroad and vague, allowing for subjective interpretation and potential misuse by the government.

➡ The absence of procedural safeguards meant the government could act as a "judge in its own cause," undermining impartiality.

➡ The court emphasised that the rules could create a "chilling effect" on intermediaries, jeopardising their legal protections.

Way Forward for the Government

➡ The Union government is likely to appeal the ruling in the Supreme Court to uphold the FCU and the amended IT Rules.

➡ It may be necessary for the government to revise the rules to include clearer definitions, procedural safeguards, and mechanisms that ensure transparency and accountability.

➡ The implications for similar fact-checking units in states like Tamil Nadu and Karnataka need careful consideration to ensure compliance with the ruling.

➡ Engaging with stakeholders, including media organisations and civil society, may help in formulating guidelines that balance misinformation control with the protection of freedom of speech.

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It's about quality

THE HINDU
INDIA'S NATIONAL NEWSPAPER SINCE 1878

Daily News Analysis

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The NCrF as a framework for well-rounded education

Cognitive inconsistency and axiomatic irrationality become evident when a few put forth the view that the spirit behind and the structural reforms advocated by the National Education Policy (NEP) 2020 are unsuitable. The NEP is a vision document that provides a broad contour of how education can be transformed in India while getting away from the clutches of the colonial mindset. The National Credit Framework (NCrF) is one of several transformative reforms that are derived from the NEP, providing a flexible template for educational institutions offering school, higher, vocational, and skill education. Using the NCrF, higher education institutions (HEI) can give a unified accumulation and transfer of credits across multidisciplinary education, including skill education. The NCrF is an enabling framework rather than a regulatory one.

Mamidala Jagadesh Kumar

Chairman, University Grants Commission and a former Vice-Chancellor, Jawaharlal Nehru University

More flexibility for students
When HEIs adopt the NCrF, students can earn credits in various activities provided they undergo an assessment. The NCrF gives students the flexibility to earn credits from classroom teaching, laboratory work, Atal Tinkering Laboratories, research projects, assignments, tutorials, sports and games, yoga, the performing arts, music, handicrafts, social work, National Cadet Corps and National Service Scheme activities, vocational and skill education, minor and major projects, on-the-job training, internships, apprenticeships, and experiential learning. Providing flexibility and broad-based educational opportunities through the NCrF has unnerved some who are deeply rooted in the conventional ways of imparting higher education.

The position of those few who remain bafflingly immune to the dynamic and forward-looking nature of the NEP 2020 is inherently "problematic". Their dismissive attitude towards the curriculum changes based

> The National Credit Framework (NCrF) aims to help higher education institutions balance vocational and skill training and knowledge-generating academic pursuits

on the NCrF shows their unwillingness to understand India's societal, technological, and educational needs. This is precisely why India's higher education system should steadfastly remain dynamic and relevant to the country's needs to avoid the risk of becoming obsolete.

In keeping with the inevitable rapid economic and technological changes, the NCrF aims to help institutions remain flexible and competitive. Keeping the current and future evolution of job requirements, there is only one solution – revise the curriculum so that it is in tune with the NCrF. HEIs should demonstrate their capacity to adapt to the evolving new situations by bridging the skill mismatch so that the career prospects of students are not hindered.

Any view that HEIs should remain the place for the sole purpose of training students only to become knowledge producers is an outdated and obstinate refusal to see the reality. In the modern world, HEIs, besides being havens of knowledge, must equip students with the skills and the competencies needed for emerging roles and self-employment. However, such a dual role is possible only when HEIs adopt the NCrF and allow students to pursue their academic and career goals.

Continuous adaptation is the key
Let us not promote an elitist brand of higher education by not supporting reforms in higher education; these reforms are necessary for the democratisation of education and social equity. HEIs must continuously adapt and reinvent themselves in response to changing circumstances. Having a few hinder efforts in transforming higher education in HEIs can lead to a stagnation and compromise the effectiveness of our institutions.

The NEP 2020 also advocates the multidisciplinary education and research university (MERU) concept. The focus of such

HEIs would be to serve as nurseries for scholars and intellectuals. However, such universities should not be considered an end in itself, and many other HEIs should also focus on vocational and skill training to enhance the employability of students.

When students acquire practical skills and knowledge through a flexible curriculum – as envisaged in the NCrF – higher education will become a tool for students to increase their social mobility. Those opposing structural changes in higher education advocate fossilised pedagogical approaches that do not align with the new economic realities and social aspirations.

On vocational and skill training
Depending on the nature of HEIs, institutions can lay emphasis on vocational and skill training, focus on fundamental research, innovation, and intellectual pursuits, and ensure that knowledge production and skill training coexist as deeply interconnected processes. The bottomline is that those who acquire vocational and skill training can be as impactful as those who produce new knowledge. Therefore, there is no need to fallaciously overemphasise or deride one over the other as both are important.

The primary objective of the NCrF is to help HEIs balance vocational and skill training and knowledge-generating academic pursuits so that HEIs play a pivotal role in shaping individual futures and societal progress.

We must reimagine our higher education curricula by integrating flexibility and multidisciplinary and skill-based courses to transform India into an economic powerhouse and technological leader. Those who oppose this flexibility in higher education curricula and insist that universities should become elitist only show their unreasonable and outdated view.

The views expressed are personal

GS Paper 02 : Social Justice – Education

PYQ : (UPSC CSE (M) GS-2 2020) : National Education Policy 2020 is in conformity with the Sustainable Development Goal-4 (2030). It intends to restructure and reorient the education system in India. Critically examine the statement. (250 words/15m)

UPSC Mains Practice Question The National Credit Framework (NCrF), as proposed in the National Education Policy (NEP) 2020, aims to transform India's higher education by integrating vocational training and academic learning. Critically analyse the impact of NCrF on India's education system and its potential to address skill mismatches in the job market. (150 w /10 m)

Context :

➡ The article emphasises the transformative reforms of India's National Education Policy (NEP) 2020, particularly the National Credit Framework (NCrF).

➡ It highlights the flexibility the NCrF offers in balancing vocational training and knowledge generation, urging higher education institutions to adapt to evolving societal and economic needs for long-term progress.

Introduction

➡ Some critics argue that the spirit and structural reforms of the National Education Policy (NEP) 2020 are unsuitable.

➡ This viewpoint reflects cognitive inconsistency and axiomatic irrationality.

➡ The NEP 2020 is a visionary document aimed at transforming India's education system, distancing it from colonial mindsets.

➡ One of the key reforms introduced by the NEP is the National Credit Framework (NCrF), which provides a flexible and integrated template for school, higher, vocational, and skill education.

About the New Education Policy

➡ The NEP is a vision document that provides a broad contour of how education can be transformed in India while getting away from the clutches of the colonial mindset.

➡️ The National Credit Framework (NCrF) is one of several transformative reforms that are derived from the NEP, providing a flexible template for educational institutions offering school, higher, vocational, and skill education.

➡️ Using the NCrF, higher education institutions (HEI) can give a unified accumulation and transfer of credits across multidisciplinary education, including skill education.

➡️ The NCrF is an enabling framework rather than a regulatory one.

More flexibility for students

➡️ **Flexibility for student credits:** When HEIs adopt the NCrF, students can earn credits in various activities provided they undergo an assessment.

  o The NCrF gives students the flexibility to earn credits from classroom teaching, laboratory work, Atal Tinkering Laboratories, research projects, assignments, tutorials, sports and games, yoga, the performing arts, music, handicrafts, social work, National Cadet Corps and National Service Scheme activities, vocational and skill education, minor and major projects, on-the-job training, internships, apprenticeships, and experiential learning.

  o Providing flexibility and broad-based educational opportunities through the NCrF has unnerved some who are deeply rooted in the conventional ways of imparting higher education.

➡️ **Issues with the nature of NEP:** The position of those few who remain bafflingly immune to the dynamic and forward-looking nature of the NEP 2020 is inherently "problematic".

➡️ Their dismissive attitude towards the curriculum changes based on the NCrF shows their unwillingness to understand India's societal, technological, and educational needs.

➡️ **Need for dynamism:** This is precisely why India's higher education system should steadfastly remain dynamic and relevant to the country's needs to avoid the risk of becoming obsolete

➡️ **Ensuring flexibility:** In keeping with the inevitable rapid economic and technological changes, the NCrF aims to help institutions remain flexible and competitive.

➡️ **Promoting Skilling and revising the curriculum:** Keeping the current and future evolution of job requirements, there is only one solution — revise the curriculum so that it is in tune with the NCrF.

➡️ HEIs should demonstrate their capacity to adapt to the evolving new situations by bridging the skill mismatch so that the career prospects of students are not hindered.

➡️ **Emphasis on training:** Any view that HEIs should remain the place for the sole purpose of training students only to become knowledge producers is an outdated and obstinate refusal to see the reality.

➡️ **Emphasis on skill upgradation:** In the modern world, HEIs, besides being havens of knowledge, must equip students with the skills and the competencies needed for emerging roles and self-employment.

➡️ **The path to growth:** However, such a dual role is possible only when HEIs adopt the NCrF and allow students to pursue their academic and career goals.

Continuous adaptation is the key

➡ **Need for reforms:** we must not promote an elitist brand of higher education by not supporting reforms in higher education; these reforms are necessary for the democratisation of education and social equity.

➡ **Need to adapt and reinvent:** HEIs must continuously adapt and reinvent themselves in response to changing circumstances.
  o Having a few hinder efforts in transforming higher education in HEIs can lead to a stagnation and compromise the effectiveness of our institutions.

➡ **Need for a multi-disciplinary approach:** The NEP 2020 also advocates the multidisciplinary education and research university (MERU) concept.

➡ **Need to focus at lower levels:** The focus of such HEIs would be to serve as nurseries for scholars and intellectuals.
  o However, such universities should not be considered an end in itself, and many other HEIs should also focus on vocational and skill training to enhance the employability of students.

➡ **Opportunity to increase social mobility**: When students acquire practical skills and knowledge through a flexible curriculum — as envisaged in the NCrF — higher education will become a tool for students to increase their social mobility.

Way Forward: On vocational and skill training

➡ **Focussing on skills:** Depending on the nature of HEIs, institutions can lay emphasis on vocational and skill training, focus on fundamental research, innovation, and intellectual pursuits, and ensure that knowledge production and skill training coexist as deeply interconnected processes.
  o The bottomline is that those who acquire vocational and skill training can be as impactful as those who produce new knowledge.

➡ **Achieving the balance:** The primary objective of the NCrF is to help HEIs balance vocational and skill training and knowledge-generating academic pursuits so that HEIs play a pivotal role in shaping individual futures and societal progress.