Studying is boring.

Discipline is boring.

Hard work is boring.

If you want to go far, Do boring.

Important Issues of the Day

- AI content – Page No.1 , GS 3
- AI surge – Page No. 6, GS 3
- START – Page No. 6, GS 2
- Fighter push – Page No. 6, GS 3
- LS Speaker – Page No. 11, GS 2
- Network Readiness Index – Prelims

Page No. 1, GS 3

Centre mandates label for photorealistic AI content

Amended IT Rules call for disclosure of AI-generated synthetic media, and warn platforms of loss of safe harbour for non-compliance; changes notified by the govt. to take effect on February 20

Aroon Deep
NEW DELHI

The Union government has notified amendments to the Information Technology Act, 2021, requiring photorealistic AI-generated content to be prominently labelled. The changes, which will come into force on February 20, also significantly shorten timelines for takedown of illegal material.

Under the new rules, social media platforms will now have between two and three hours to remove certain categories of unlawful content, a sharp reduction from the earlier 24-36 hours. Content deemed illegal by a court or an "appropriate government" will have to be taken down within three hours, while sensitive content, featuring non-consensual nudity and deepfakes, must be removed within two hours.

The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2026, defines synthetically generated content as "audio, visual or audio-visual information which is artificially or algorithmically created, generated, modified or altered using a computer resource, in a manner that such information appears to be real, authentic or true and depicts or portrays any individual or event in a manner that is, or is likely to be perceived as indistinguishable from a natural person or a real-world event." The final definition is narrower than the one released in a draft version of these rules in October 2025. As with the existing IT Rules, failure to comply with the rules could result in loss of safe harbour, the legal principle that sites allowing users to post content cannot automatically be held liable in the same way as a publisher of a book or a periodical can.

A senior government official on Tuesday said the rules include a carve-out for touch-ups that smartphone cameras often perform automatically.

CONTINUED ON
» PAGE 10

Content check

Platforms that enable creation or sharing of synthetic content must ensure **clear and prominent labelling** under the new rules

Key changes include:

- **Synthetic content** to be treated as 'information' for determining unlawful acts under IT Rules
- Timeline for platforms to act on government or court orders reduced from 36 hours to **3 hours**
- Sensitive content, including non-consensual deepfake, must be removed within **2 hours**
- Platforms to seek **disclosures from users** for AI-generated content

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- **The final definition is narrower than the one released in a draft version of these rules in October 2025.**

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Page No.6 , GS 3

The approaching AI surge, its global consequences

M.K. Narayanan

is a former Director, Intelligence Bureau, a former National Security Adviser, and a former Governor of West Bengal

If there is a single technology that promises to unravel the present and usher in a new era, the bet would be on Artificial Intelligence (AI). At the very least, AI is set to effect a transformation that is comparable to any previous revolution, not excluding the Industrial Revolution. Impressive Large Language Models (LLMs) are already rolling out faster than one would have imagined possible. Rivalry between the United States and China in this area has become intense and the success of recent Chinese models is having a catalytic effect on the AI industry as a whole. This is, however, only the beginning.

All this has special relevance to a world which Canadian Prime Minister, Mark Carney, described in his address to the World Economic Forum (WEF) in Davos (in January this year), as follows: "... We are in the midst of a rupture, not a transition... great powers have begun using economic integration as weapons, tariffs as leverage, financial infrastructure as coercion, supply chains as vulnerabilities to be exploited". Mr. Carney did not, however, touch on potentially the greatest disruptor of all, *viz.*, AI, or refer to the baneful/beneficial influence of AI which is already beginning to impact today's world. When he talked of great power rivalry, and that countries in between have a choice, there was no mention of AI and what impact it would have on today's world, and more so in the future.

Face the reality

World leaders must, however, wake up to this new reality, and come to terms with a phenomenon in which Open AI is beginning to consume the world. There is little realisation that the transformation that is taking place is almost certain to turn the world upside down. When Mr. Carney stated that 'we are in the midst of a rupture and not a transition', he did not have in mind – and probably realised even less – that it is the advent of AI, rather than other aspects, that is likely to herald the collapse of the international order as we know it.

Few leaders currently understand the extent of the threat posed by AI to the world as we know it. Some industry leaders such as Microsoft CEO Satya Nadella have pointed out that AI was already being used as tools of diplomacy and state-craft, and that nations require to build resilience and sovereign stacks. AI did figure in discussions at the WEF, but the contents of the debate hardly mirrored the dangers arising from unchecked AI. A great deal of the debate turned on how countries were placed to exploit this new phenomenon, with Union Minister for Electronics and Information Technology, Ashwini Vaishnaw taking time off to rebut the presumption that India was a secondary AI power. Industry leaders, no doubt, increasingly see AI as a strategic enabler, given that digital transformation is helping to reshape competitiveness across different sectors – from fintech to health care. Additionally, there is some realisation that AI's potential extends to other sectors as well. The judicial fraternity, for one, however, believes that there is a need to be more cautious about the use of AI in court proceedings, and that excessive reliance on AI in court rooms could lead to misjudgment. They point to the dangers of 'hallucinations' which could lead to improper citations and fabricated judgments.

With AI disrupting global power, warfare and governance, the issue is whether humanity can keep pace with a set of checks and balances in place

Marching ahead across domains

All this, however, is but a precursor to what the real potential and danger posed by AI in the world of tomorrow are. As AI proliferates globally, it is already becoming evident that few technologies have the potential to exert the same degree of influence in terms of enhancing information flows, surveillance capabilities, revolutionising of communications, empowering analytical frameworks and the military-industrial segment. No other area of technology seems to have such a profound impact on existing civilisational networks.

In this sense, AI portends a breaching of certain limits that had existed since the Second World War and the overweening threat posed by technology and its utilisation in different domains. What is noteworthy is that AI operates at granular levels – and that the technology itself is undergoing a phased transition. In its present form, AI is already enabling the replication of speech and language, vision and reasoning, but what is little realised is that it is set to achieve new and dangerous heights of capabilities. This is specially so in regard to military and defence applications, for as AI becomes increasingly militarised, warfare itself is bound to – and is already undergoing – a paradigm shift from man to unmanned platforms, and from dependence on human-controlled systems to autonomous ones, that are capable of making their own decisions.

Even as AI is set to become all pervasive, its transformative impact on warfare, especially in the area of the evolution of weapon systems, is what is most worrisome. AI has made possible the deployment of unmanned aerial vehicles that are capable of autonomous flight. AI-driven cyber weapons and uncrewed ground vehicles equipped with intelligent navigation and targeting capabilities are already a reality. Both represent a paradigm shift in redefining combat, and employing operations across multiple systems without direct human intervention. As of today, AI offers unprecedented opportunities for the enhanced automation of operational decisions in areas of conflict, and of transforming battlefield dynamics.

Already, the portrayal of Ukrainian soldiers wearing night vision goggles, riding 'Quad bikes' to protect the capital city of Kiev, and launching 'jerry-rigged drones' equipped with small explosives, has become the defining image of future conflicts. Ukraine's success in checking and keeping at bay the mighty Russian Army in the first wave of Russia's attacks on Ukraine, employing the latest AI technology, marks the most fundamental change in tactics of warfare since the advent of tanks at the end of the First World War. Ukraine's response has demonstrated the value of 'coming age technology', and how their skilful use could undermine conventional military capabilities. It is the hugely asymmetric impact that AI commands, that is both its strength and its danger portent. Though this is not being openly mentioned or touted, the reality is that it represents a colossal transfer of power from the traditional military to others, who have the capacity to develop and utilise AI devices. The real danger is that AI could very soon eclipse the smartest individuals, and nobody can or will know, when they become autonomous, and totally out of human control.

The dystopian impact of a powerful set of technologies which are not under the control of a human body or entity, and of self-sustaining technology, portrays a doomsday scenario. The beginnings of this are already evident, and are set to escalate enormously to the next levels of the concentration of power. There are unlimited possibilities in the doomsday scenario of autonomous drone swarms unleashing attacks on crowds, killing hundreds, if not, thousands. Both the military and security establishments would seek to equip themselves with such devices in a few years. AI would then be well set to become the greatest force amplifier in history. Its impact could range from wars and accidents, to random terror groups, to counter-revolutionary forces, and the like. The blunt truth is that nobody knows when, if how, AI might overtake or eclipse humans, and become an autonomous force for good or evil.

It is also becoming evident that, apart from the battlefield, AI is now becoming an instrument of immense value in different spheres of human activity including diplomacy and intelligence. In that sense, it is no longer merely a tool. Concerns that technologies such as AI would outpace institutions meant to govern them are real, but the most spectacular demonstration of AI is as yet on the battlefield – as seen across western Europe and West Asia. In both sectors, space, cyber and electronic warfare capacities have been woven together to completely transform the nature of warfare itself.

Need for effective oversight

The *obiter dictum* – given that AI enables rapid data processing and predictive analysis, and also provides opportunities for a variety of options, including crisis response, conflict prevention, and conflict resolution – is that humankind must develop a set of checks and balances to prevent AI from 'running away with the bit in its mouth'. Scientists, political leaders and others must come together to understand the implications of runaway AI technologies and decide how to keep them under control and in a manner that they benefit, rather than become a threat to, humankind.

- **World leaders must, however, wake up to this new reality, and come to terms with a phenomenon in which Open AI is beginning to consume the world.**
- **All this, however, is but a precursor to what the real potential and danger posed by AI in the world of tomorrow are.**
- **In its present form, AI is already enabling the replication of speech and language, vision and reasoning, but what is little realised is that it is set to achieve new and dangerous heights of capabilities.**
- **Need for effective oversight**

In which of the following areas can GPS technology be used?

1. **Mobile phone operations**
2. **Banking operations**
3. **Controlling the power grids**

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

The terms 'WannaCry, Petya and Eternal Blue' sometimes mentioned in the news recently are related to

(a) Exoplanets

(b) Cryptocurrency

(c) Cyber attacks

(d) Mini satellites

Mains Question

Artificial Intelligence promises efficiency, innovation, and growth, but it also raises serious concerns related to ethics, employment, privacy, and human autonomy. Critically examine the major concerns associated with Artificial Intelligence and discuss how a responsible governance framework can address these challenges.
(250 words)

कृत्रिम बुद्धिमत्ता (Artificial Intelligence) दक्षता, नवाचार और विकास की संभावनाएँ प्रस्तुत करती है, लेकिन इसके साथ नैतिकता, रोजगार, निजता और मानव स्वायत्तता से जुड़ी गंभीर चिंताएँ भी उभरती हैं।
कृत्रिम बुद्धिमत्ता से संबंधित प्रमुख चिंताओं का आलोचनात्मक विश्लेषण कीजिए तथा चर्चा कीजिए कि उत्तरदायी शासन ढाँचा इन चुनौतियों से कैसे निपट सकता है।
(250 शब्द)

Page No. 11, GS 2

Opposition MPs submit notice seeking removal of LS Speaker

Notice has 120 signatures, including of SP, DMK MPs; it cites Speaker's prevention of Rahul's speech, 'arbitrary suspension' of MPs, 'false allegations' about protest against PM; House allowed to function after submission, discussion on Budget taken up

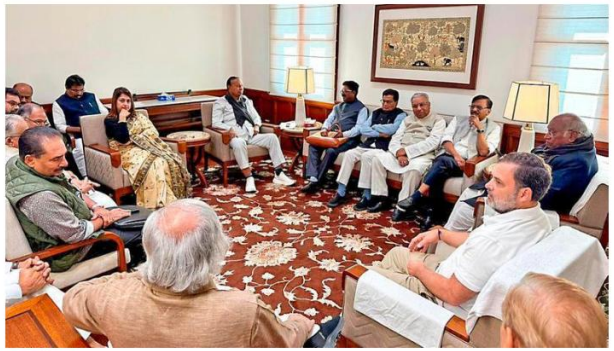
Sandeep Phukan
Sobhana K. Nair
NEW DELHI

Opposition parties belonging to the Indian National Developmental, Inclusive Alliance (INDIA) on Tuesday submitted a notice to the Secretary-General of the Lok Sabha, seeking the removal of Speaker Om Birla for allegedly conducting the business of the House in a "blatantly partisan" manner.

The notice to bring a resolution for the removal of the Speaker cited four specific reasons, including not allowing Leader of the Opposition Rahul Gandhi to complete his speech on the Motion of Thanks to the President on February 2. "This is not an isolated instance. The Leader of the Opposition in the Lok Sabha is almost invariably not allowed to speak," the notice said.

The notice, with nearly 120 signatures, was submitted to Lok Sabha Secretary-General Utpal Kumar Singh by Congress chief whip K. Suresh and whip Mohamed Jawed on behalf of several Opposition parties, including the Congress, Samajwadi Party, and Dravida Munnetra Kazhagam (DMK). However, the Trinamool Congress did not sign the notice.

Soon after the submission of the notice against the Speaker, the Opposition agreed to let the House function. The discussion on the Budget started in the second half of the day. Mr. Gandhi is likely to take part in the discussions tomorrow.



Big move: Congress leaders Mallikarjun Kharge and Rahul Gandhi with floor leaders of the INDIA bloc parties during a meeting in New Delhi on Tuesday. ANI

Mr. Birla has directed the Secretary-General to take appropriate action of "examining and processing" the notice, according to the rules, sources said. At least two Lok Sabha members have to sign the notice to move a resolution for the removal of the Speaker and a minimum of 14 days' notice has to be given before the resolution can be taken up by the House.

Under Article 94C of the Constitution, the Speaker can be removed from office by a resolution passed by the House through a simple majority. Article 96 of the Constitution allows the Speaker to respond to the notice for removal but the charges against her/him will have to be specific.

'Arbitrary suspension'

Apart from Mr. Gandhi's speech, the notice said that on February 3, eight Opposition MPs were "arbitrarily suspended" for the entire Budget session and were "being penalised merely for exercising their democratic rights".

On February 4, a BJP MP was permitted to make "wholly objectionable and personalised attacks" against two former Prime Ministers, without being reprimanded even once for disregarding established conventions and norms of propriety, the notice said, referring to Nishikant Dubey's remarks. "In spite of our request, no action has been taken against this particular MP, who is a habitual offender," it said.

Referring to the Speaker's statement that he had "concrete information" that Congress members might move towards Prime Minister Narendra Modi's seat and carry out "some unexpected act", the notice termed these remarks "blatantly false allegations" and his decision to make these observations from his Chair as "indicative of an abuse of this constitutional office".

"While we hold the Speaker, Lok Sabha, in personal regard, we are pained and anguished at the manner in which he has consistently prevented opposition members of Parliament from raising issues of legitimate public concern," the notice said.

BJP slams notice

The BJP on Tuesday slammed the Opposition for submitting the notice and said the time has come for India to "impeach" Mr. Gandhi and the Congress from politics.

"Those who have been impeached of their consciousness are the ones who want to impeach all the constitutional posts of India," BJP national spokesperson Sambit Patra told presspersons.

(With PTI inputs)

Birla to stay away from Lok Sabha proceedings

The Hindu Bureau
NEW DELHI

Lok Sabha Speaker Om Birla will not preside over the business of the House until the Opposition's notice for a motion seeking his removal is disposed of, sources said on Tuesday, citing "moral grounds" for the decision.

The Speaker has already directed the Lok Sabha Secretary-General to examine and process the notice as per rules.

Countering the Congress claim that the Speaker's charges against its women MPs were baseless, Parliamentary Affairs Minister Kiren Rijiju posted video footage from February 4 on X, showing women MPs of the principal Opposition party surrounding the Prime Minister's front row seat in the Lok Sabha.

If the ruling party had not restrained its members, Mr. Rijiju said, there would have been "very ugly scenes". "Congress Party is proud of the most degrading behaviour by their MPs!! If we had not stopped all BJP MPs and allowed the Women MPs to confront Cong. MPs, it would have led to very ugly scene. We have very high consideration, to protect the dignity & sanctity of the Parliament," he said.

- **Opposition parties belonging to the Indian National Developmental, Inclusive Alliance (INDIA) on Tuesday submitted a notice to the Secretary-General of the Lok Sabha, seeking the removal of Speaker Om Birla for allegedly conducting the business of the House in a "blatantly partisan" manner.**

- **The notice to bring a resolution for the removal of the Speaker cited four specific reasons, including not allowing Leader of the Opposition Rahul Gandhi to complete his speech on the Motion of Thanks to the President on February 2. "This is not an isolated instance. The Leader of the Opposition in the Lok Sabha is almost invariably not allowed to speak," the notice said.**

- **Under Article 94C of the Constitution, the Speaker can be removed from office by a resolution passed by the House through a simple majority.**

- **Article 96 of the Constitution allows the Speaker to respond to the notice for removal but the charges against her/him will have to be specific.**

- **According to practices and procedures governing the conduct of legislative business in the House, the Speaker or the Deputy Speaker can be removed from office by a resolution of Lok Sabha passed by a majority of all the then members of the House.**

- **This is procedurally possible under Article 94 (c) of the Constitution.**

- **Article 94, per se, provides for the vacation, resignation and removal of those occupying the offices of Speaker and Deputy Speaker; the rules in this regard, however, are stringent.**

- **as per 94 (a), they cease “to be a member of the House of the People”, according to 94 (b), may at any time “by writing under his hand addressed” resign office and, per 94 (c), be removed “by a resolution of the House of the People passed by a majority of all the then members of the House”.**

- **A member wishing to give notice of a resolution for the removal of the Speaker or the Deputy Speaker has to do it in writing to the Secretary-General of the Lok Sabha.**

- **This notice may be given by two or more members jointly – but no resolution for the removal of such officials moved under clause (c) can be moved unless at least fourteen days' notice has been given of the intention to move the resolution.**

- **Yes, thrice in the past in the years 1954, 1966 and 1987.**

- **Such a motion requires to be backed by at least two Members of the House of the People, or the Lok Sabha and "50 members have to stand up" in its favour, that is, the quorum of the House has to be fulfilled for the procedure to take place.**

- **The process is governed by Rules 200 to 203 of the Rules of Procedure and Conduct of Business in Lok Sabha.**

- **According to Rule 200A, such a resolution needs to be “specific with respect to charges”, “be clearly and precisely expressed” and “shall not contain arguments, inferences, ironical expressions, imputations or defamatory statements.”**

- **The other points which such a motion needs to adhere to include “no speech” by the Member(s) who submitted it after it is admitted for discussion.**

- **The Speaker has the right to speak as well as to take part in the proceedings of Lok Sabha while any resolution for their removal from office is under consideration in the House.**

- **They are entitled to vote only in the first instance on such a resolution or any other matter during such proceedings but not in the case of an equality of votes.**

Consider the following statements:

I. On the dissolution of the House of the People, the Speaker shall not vacate his/her office until immediately before the first meeting of the House of the People after the dissolution.

II. According to the provisions of the Constitution of India, a Member of the House of the People on being elected as Speaker shall resign from his/her political party immediately.

III. The Speaker of the House of the People may be removed from his/her office by a resolution of the House of the People passed by a majority of all the then Members of the House, provided that no resolution shall be moved unless at least fourteen days' notice has been given.

Which of the statements given above are correct?
a. I and II only
b. II and III only
c. I and III only
d. I, II and III

With reference to the Speaker of the Lok Sabha, consider the following statements:

While any resolution for the removal of the Speaker of the Lok Sabha is under consideration

1. **He/She shall not preside.**
2. **He/She shall not have the right to speak**
3. **He/She shall not be entitled to vote on the resolution in the first instance.**

Which of the statements given above is/are correct?

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

Mains Question

The Speaker of the Lok Sabha is expected to act as the impartial guardian of parliamentary democracy. In recent times, questions have been raised regarding the neutrality of the Speaker.
Examine the constitutional position, powers, and responsibilities of the Speaker of the Lok Sabha, and critically analyze the challenges to the office's impartiality.
(250 words)

लोकसभा अध्यक्ष से अपेक्षा की जाती है कि वह संसदीय लोकतंत्र के निष्पक्ष संरक्षक के रूप में कार्य करे। हाल के समय में अध्यक्ष की निष्पक्षता को लेकर प्रश्न उठाए गए हैं। लोकसभा अध्यक्ष की संवैधानिक स्थिति, शक्तियों एवं दायित्वों की विवेचना कीजिए तथा इस पद की निष्पक्षता से जुड़ी चुनौतियों का आलोचनात्मक विश्लेषण कीजिए।
(250 शब्द)

Page No.6 , GS 2

New beginnings

The end of START should prompt discussions on wider and equal terms

On February 5, 2026, the 'New' Strategic Arms Reduction Treaty (START) expired. A symbol of an older era in global geopolitics, where the U.S. and the then Union of Soviet Socialist Republics were engaged in an escalating spiral of one-upmanship such as 'testing' mammoth nuclear weapons and space races, START represented a pivotal shift in how they approached nuclear competition – from unlimited accumulation towards negotiated reduction. It emerged from decades of arms control efforts and altered the trajectory of the Cold War's final years. The nuclear arms race that dominated the Cold War saw both superpowers accumulate massive arsenals. By the 1980s, they each possessed over 10,000 strategic nuclear warheads – the U.S. with a lopsided advantage. Earlier arms control measures such as the Strategic Arms Limitations Talks, in the 1970s, attempted to limit the growth of these arsenals, but were focused on capping numbers rather than reducing them.

START I negotiations began in 1982 and proved complex. The treaty was not signed until July 1991, just months before the Soviet Union's collapse. It represented the first agreement between the superpowers to actually reduce strategic nuclear arsenals rather than merely limit their growth. The treaty required each side to cut strategic warheads to 6,000 and reduce delivery systems proportionally. This was a significant symbolic and practical achievement – each country would have roughly 30% fewer warheads than existing agreements permitted. Later agreements built on START's framework and reduced deployable warheads to 1,700-2,200 a side, and the New START Treaty (2010) limited each side to 1,550 deployed strategic warheads. Each represented further progress down from Cold War peaks. The New START, with its 15-year lifespan, ought to have been replaced with more ambitious outcomes. But given that global geopolitics seems to be receding into imperialist structures – mercantilist tariff systems and a craving for territories – it is unsurprising that arms-race doctrines too will be resuscitated. U.S. President Donald Trump has stated that any future arms control must include China, given its growing nuclear stockpile, signalling that the U.S. will not be bound by limits if other major powers (such as China) are free to build up theirs. The end of START may have serious consequences for global agreements, such as the Non-Proliferation Treaty and the Comprehensive Nuclear-Test-Ban Treaty. They are both noble in theory but the first is discriminatory in the way it seeks to rid the world of nuclear weapons. The end of START is an opportunity to restart discussion on more equal terms.

the superpowers to actually reduce strategic nuclear arsenals rather than merely limit their growth. The treaty required each side to cut strategic warheads to 6,000 and reduce delivery systems proportionally. This was a significant symbolic and practical achievement – each country would have roughly 30% fewer warheads than existing agreements permitted. Later agreements built on START's framework and reduced deployable warheads to 1,700-2,200 a side, and the New START Treaty (2010) limited each side to 1,550 deployed strategic warheads. Each represented further progress down from Cold War peaks. The New START, with its 15-year lifespan, ought to have been replaced with more ambitious outcomes. But given that global geopolitics seems to be receding into imperialist structures – mercantilist tariff systems and a craving for territories – it is unsurprising that arms-race doctrines too will be resuscitated. U.S. President Donald Trump has stated that any future arms control must include China, given its growing nuclear stockpile, signalling that the U.S. will not be bound by limits if other major powers (such as China) are free to build up theirs. The end of START may have serious consequences for global agreements, such as the Non-Proliferation Treaty and the Comprehensive Nuclear-Test-Ban Treaty. They are both noble in theory but the first is discriminatory in the way it seeks to rid the world of nuclear weapons. The end of START is an opportunity to restart discussion on more equal terms.

- **On February 5, 2026, the ‘New’ Strategic Arms Reduction Treaty (START) expired.**

- **A symbol of an older era in global geopolitics, where the U.S. and the then Union of Soviet Socialist Republics were engaged in an escalating spiral of one-upmanship such as ‘testing’ mammoth nuclear weapons and space races, START represented a pivotal shift in how they approached nuclear competition — from unlimited accumulation towards negotiated reduction.**

- **It emerged from decades of arms control efforts and altered the trajectory of the Cold War’s final years.**

- **The nuclear arms race that dominated the Cold War saw both superpowers accumulate massive arsenals. By the 1980s, they each possessed over 10,000 strategic nuclear warheads — the U.S. with a lopsided advantage.**

- **START I negotiations began in 1982 and proved complex. The treaty was not signed until July 1991, just months before the Soviet Union's collapse. It represented the first agreement between the superpowers to actually reduce strategic nuclear arsenals rather than merely limit their growth.**

- **The treaty required each side to cut strategic warheads to 6,000 and reduce delivery systems proportionally.**

- **This was a significant symbolic and practical achievement — each country would have roughly 30% fewer warheads than existing agreements permitted.**

- **Later agreements built on START's framework and reduced deployable warheads to 1,700-2,200 a side, and the New START Treaty (2010) limited each side to 1,550 deployed strategic warheads.**

- **The New START, with its 15-year lifespan, ought to have been replaced with more ambitious outcomes.**
- **But given that global geopolitics seems to be receding into imperialist structures — mercantilist tariff systems and a craving for territories — it is unsurprising that arms-race doctrines too will be resuscitated.**
- **U.S. President Donald Trump has stated that any future arms control must include China, given its growing nuclear stockpile, signalling that the U.S. will not be bound by limits if other major powers (such as China) are free to build up theirs.**
- **The end of START may have serious consequences for global agreements, such as the Non-Proliferation Treaty and the Comprehensive Nuclear-Test-Ban Treaty.**

Page No. 6, GS 3

Fighter push — HAL's experience with private enterprise

An air force requires three verticals to operate in synchrony for its operational punch – a weapons inventory more potent than its adversary's, professional personnel to operate those weapon systems, and a dependable supply chain to provide the systems in time and of requisite quality.

The fighter aircraft portfolio of the Indian Air Force is a mix of Russian and western machines, with the indigenous Tejas built by Hindustan Aeronautics Limited (HAL) a new entrant. The repair and overhaul of every fighter jet, irrespective of its origin, is also done by HAL, making the task of India's sole aircraft manufacturer immense. Its order book is overflowing and, with a typical 'government' work culture, its output in terms of timely delivery and quality has been adversely commented on, including by the Comptroller and Auditor General. So, media reports that the development contract for five prototypes of India's Advanced Medium Combat Aircraft (AMCA) would be awarded to one of three private players (HAL has been left out) – thereby creating a second aircraft manufacturer – should be welcome news except that there are some serious professional issues that need to be thought through while the decision-making is ongoing.

The complexities

Here are six macro points that deserve consideration. First, the three private entities (despite being top industrial players) can be considered start-ups as they have no previous experience in developing a fighter aircraft. The complexities of building a small ship, a helicopter airframe or aerospace parts cannot be compared to the expertise required to make and test a fifth Gen fighter prototype.

Second, taking history as a guide, the HF-24 Marut was designed by HAL's Aircraft Design Bureau and produced on its shop floor. Thus, design, prototype construction, flight testing, upgrades, weapon integration and modifications were all under one roof. HAL did the series production and provided lifetime spares support; projects such as the trainer aircraft HT-2 and HJT-16 were similar. The Tejas is hybrid as a large part of its design is by the Defence Research and Development Organisation (DRDO)'s Aeronautical Development Agency (ADA) while the series production and lifetime support rests with HAL.

Manmohan Bahadur

is a retired Air Vice Marshal and a former Additional Director General of the Centre for Air Power Studies

The development of India's Advanced Medium Combat Aircraft will test private industry's ability to match HAL's institutional knowledge

Singular control

Since HAL and ADA are government agencies, there is an element of singular control by the Ministry of Defence. In the AMCA case, however, with the design agency (ADA) under the government but the executor a private entity, who would have ownership over the project during prototype testing and during production?

Third, HAL has developed the requisite infrastructure, tools, rigs and production facilities over eight decades centred around Bangalore. The IAF has contributed extensively to flight testing, with its test aircrew sharing the workload and personnel moving on deputation. With the IAF's Aircraft and Systems Testing Establishment co-located with it, the development phase of all aircraft had concurrent infusion of user inputs.

For Tejas, a full-fledged National Flight Test Centre was established at ADA, with expensive and sophisticated equipment for prototype testing. Many DRDO labs specialising in avionics and electronic warfare are also situated in a 10-kilometre radius of HAL's airfield in Bengaluru. Would the private entity for AMCA put in the huge sums of money required for similar infrastructure at a new place for research and development and the manufacturing centre? The time required can well be imagined.

Fourth, in any aircraft development plan, there are professional differences which get resolved easily when the design and manufacturing agency are the same. In fact, there is close fusion between designers and production engineers, from the design board phase to flight testing, and during production later as upgrades and modifications take place. Even as prototypes begin to fly, the manufacturing ecosystem begins to get established – with tools, jigs and machinery operationalised to start production as soon as the testing phase is completed. This is a norm the world over. It would be a near impossible task for the AMCA private entity to source land, construct hangars and install manufacturing equipment concurrently for a fifth Gen fighter. In fact, would a private player sink in monies when the contract would be for just five prototypes, and there is no assured production deal that is visible?

Fifth, it takes a year to train test aircrew and a few more to make them experienced enough to start testing a futuristic prototype. India has a single test pilots school that can cater to a limited number of trainees. The private entity would require many from the word go.

Finally, the ADA, its National Flight Test Centre and the IAF's testing establishment are all located at HAL airport, Bengaluru. It makes eminent sense that the private entity also sets up office in these campuses and uses the existing airfield infrastructure. AMCA is a national project. Here is a suggestion, no matter how bureaucratically outlandish it sounds. Can some part of HAL's enormous real estate, hangarage and select facilities (including for flight testing) at Bengaluru be co-opted for the private entity? HAL has been built with public money and, with its restructuring study underway, it is only right that an out-of-the-box approach be adopted in this national endeavour.

The issue of location

Which brings us to the location of the production factory. The idea of locating strategic infrastructure close to the border should not be repeated as in the C-295 aircraft factory at Vadodara, Gujarat. Production of the AMCA must be in the hinterland, well connected to, and not far from, India's mecca of aviation – HAL's Bengaluru airfield.

- **An air force requires three verticals to operate in synchrony for its operational punch — a weapons inventory more potent than its adversary's, professional personnel to operate those weapon systems, and a dependable supply chain to provide the systems in time and of requisite quality.**

- **The fighter aircraft portfolio of the Indian Air Force is a mix of Russian and western machines, with the indigenous Tejas built by Hindustan Aeronautics Limited (HAL) a new entrant.**

- **The repair and overhaul of every fighter jet, irrespective of its origin, is also done by HAL, making the task of India's sole aircraft manufacturer immense.**

- **media reports that the development contract for five prototypes of India's Advanced Medium Combat Aircraft (AMCA) would be awarded to one of three private players (HAL has been left out) — thereby creating a second aircraft manufacturer — should be welcome news except that there are some serious professional issues that need to be thought through while the decision-making is ongoing.**

Hindustan Aeronautics Limited (HAL): Key Facts

- HAL was founded in 1940 in Bangalore as Hindustan Aircraft Limited, merging with Aeronautics India Limited in 1964 to become HAL.
- It is a state-owned company under the Ministry of Defence.
- Headquarters are in Bengaluru, Karnataka.
- Operates 20 production and R&D centers across India, including Bangalore, Nashik, Koraput, and Lucknow.

- Focuses on design, development, manufacture, and maintenance of aircraft, helicopters, engines, avionics, and aerospace equipment.
- Produces fighter aircraft like Tejas LCA, Sukhoi Su-30MKI, Jaguar, and Hawk.
- Manufactures helicopters including Dhruv ALH, Rudra, Cheetah, Chetak, and LCH.

Mains Question

Indigenisation of defence production is central to India's strategic autonomy and national security. Despite policy initiatives such as 'Make in India' and 'Atmanirbhar Bharat', India continues to face structural and technological challenges in defence manufacturing.
Critically examine the status of defence production in India and suggest measures to strengthen indigenous capabilities.
(250 words)

रक्षा उत्पादन का स्वदेशीकरण भारत की रणनीतिक स्वायत्तता एवं राष्ट्रीय सुरक्षा के लिए अत्यंत महत्वपूर्ण है। 'मेक इन इंडिया' और 'आत्मनिर्भर भारत' जैसी नीतिगत पहलों के बावजूद भारत को रक्षा विनिर्माण में संरचनात्मक एवं तकनीकी चुनौतियों का सामना करना पड़ रहा है।
भारत में रक्षा उत्पादन की स्थिति का आलोचनात्मक परीक्षण कीजिए तथा स्वदेशी क्षमताओं को सुदृढ़ करने के उपाय सुझाइए।
(250 शब्द)

Network Readiness Index

- **India improved its rank to 45th (4 places improvement) in the Network Readiness Index (NRI) 2025, while also increasing its score to 54.43/100, reflecting stronger digital and network preparedness.**

- **The Network Readiness Index (NRI) is a global assessment that evaluates how effectively countries use information and communication technologies (ICTs) to promote economic growth, innovation, governance quality and social development.**

- **Published by: Prepared by the Portulans Institute, an independent, non-profit research and educational institute based in Washington, DC.**

- **To measure a country's readiness to leverage digital networks and technologies.**
- **To assess how ICT adoption translates into inclusive growth, innovation, governance efficiency and societal impact.**

- **Covers 127 economies worldwide.**

- **Based on 4 pillars:**

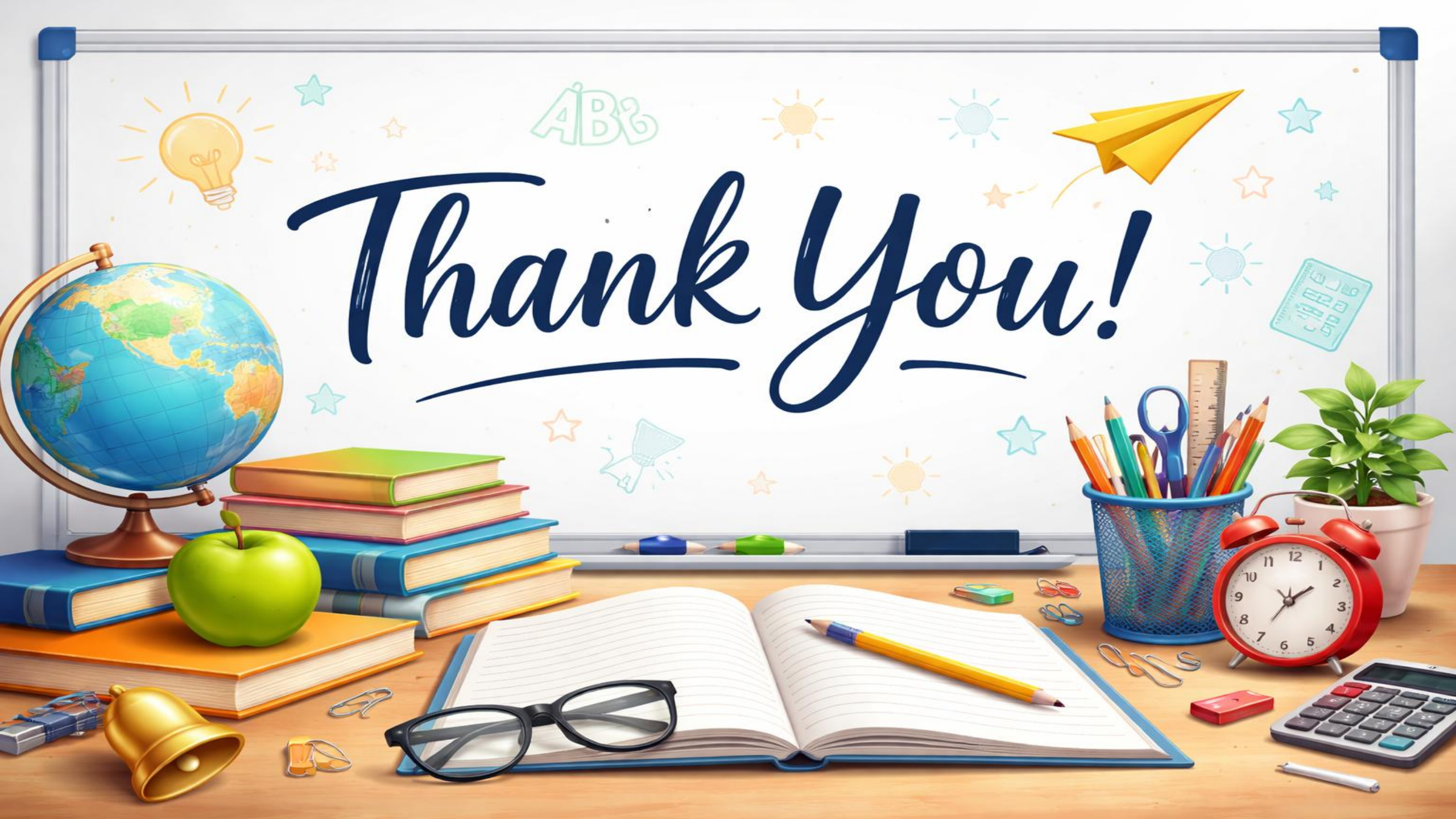
- **Technology – digital infrastructure, access and future technologies**
- **People – skills, digital inclusion and workforce readiness**
- **Governance – regulation, trust, security and policy environment**
- **Impact – economic, social and environmental outcomes**

- **Uses 53 indicators including broadband penetration, AI research output, digital trade, legislation and market scale.**

- **India climbed 4 places to 45th globally, with its score improving from 53.63 (2024) to 54.43 (2025).**

Ranking Countries

ISO3	Country	Score	Rank	Technology	People	Governance	Impact
USA	United States of America	79.13	1	82.47	76.16	86.48	71.42
FIN	Finland	75.82	2	66.28	62.94	88.91	85.17
SGP	Singapore	75.46	3	70.42	68.10	84.41	78.91
DNK	Denmark	75.14	4	67.47	58.75	92.02	82.30
SWE	Sweden	75.09	5	69.04	62.36	86.68	82.26
NLD	Netherlands	75.08	6	72.01	58.71	89.56	80.05
DEU	Germany	74.12	7	70.27	63.05	86.84	76.33


Thank You!