

1 कोर सेक्टर इंडस्ट्रीज सूचकांक (ICI) नई श्रृंखला, आधार वर्ष 2022-23



- 8 कोर उद्योगों के प्रदर्शन को मापता है।
- ये मिलकर इंडेक्स ऑफ इंडस्ट्रियल प्रोडक्शन (IIP) में लगभग 40% भार देते हैं।
- DPIIT द्वारा संकलित।
- औद्योगिक वृद्धि का अग्रणी संकेतक।
- नई श्रृंखला: आधार वर्ष 2022-23।
- आर्थिक योजना व नीति निर्माण में सहायक।

मूल्य संवर्धन: औद्योगिक प्रवृत्तियों और माहोल का आकलन करने में उपयोगी।

मुख्य शब्द: ICI, IIP, DPIIT, औद्योगिक वृद्धि, कोर सेक्टर, सूचकांक

2 माननीय प्रधानमंत्री श्री नरेंद्र मोदी का मानसून सत्र 2026 के प्रारंभ में वक्तव्य



मूल्य संवर्धन: संसद सत्रों में दिए गए वक्तव्य नीति दिशा और विधायी एजेंडा को दर्शाते हैं।

मुख्य शब्द: संसद, मानसून सत्र, विधायी एजेंडा, विकसित भारत, सुशासन, समावेशी विकास

- संसद के दोनों सदनों को संबोधित करते हुए सरकार की प्राथमिकताएँ रखीं।
- विधायी एजेंडा और नीति प्राथमिकताओं की रूपरेखा।
- विकसित भारत, सुशासन और जनकल्याण पर बल।
- आर्थिक सुधार, रोजगार, नवाचार, कृषि व अवसंरचना पर फोकस।
- संघवाद, संस्थागत जवाबदेही और सुरक्षा जोर।
- समावेशी विकास और सामाजिक न्याय पर प्रतिबद्धता दोहराई।

3 UPI के उपयोगकर्ता 55.49 करोड़ (June 2026)

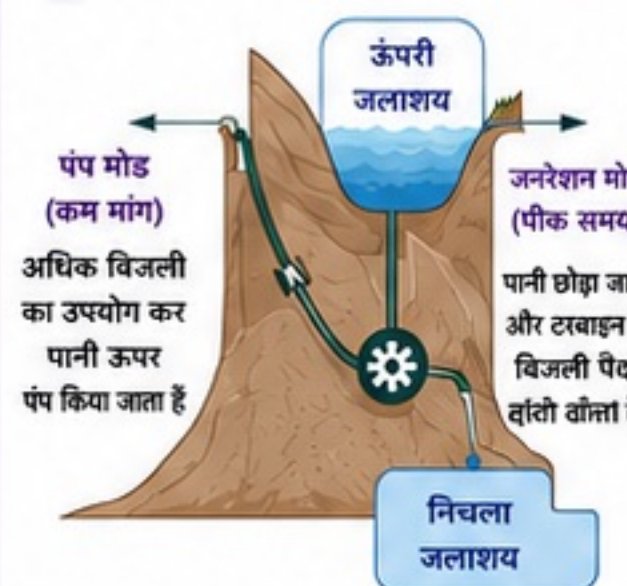


- जून 2026 में UPI उपयोगकर्ता 55.49 करोड़ पहुँचे।
- NPCI द्वारा संचालित।
- RBI और IBA द्वारा प्रोत्साहित।
- 24x7 रीयल-टाइम डिजिटल भुगतान सक्षम।
- बैंक और ऐप्स के बीच इंटरऑपरेबल।
- पारदर्शिता, दक्षता और वित्तीय समावेशन को बढ़ावा।

मूल्य संवर्धन: भारत के डिजिटल भुगतान पारिस्थितिकी तंत्र की रीढ़।

मुख्य शब्द: UPI, NPCI, डिजिटल भुगतान, JAM ट्रिनिटी, वित्तीय समावेशन

4 पंप स्टोरेज प्रोजेक्ट्स (PSPs)



- कम मांग के समय पानी ऊपर पंप कर ऊर्जा संग्रहित करते हैं।
- अधिक मांग के समय पानी छोड़कर बिजली पैदा करते हैं।
- ग्रिड स्थिरता और लोड बैलेंसिंग में सहायक।
- नवीकरणीय ऊर्जा (सौर/पवन) एकीकरण में मददगार।
- उच्च प्रारंभिक लागत और लंबा निर्माण समय।
- पर्यावरण एवं भूमि अधिग्रहण चुनौतियाँ।

मूल्य संवर्धन: दीर्घकालिक ऊर्जा संग्रहण का सबसे किफायती और विश्वसनीय विकल्प।

मुख्य शब्द: PSP, ऊर्जा संग्रहण, ग्रिड स्थिरता, पीक लोड, नवीकरणीय एकीकरण

5 भारतीय शहरों में अर्बन हीट आइलैंड प्रभाव



मूल्य संवर्धन: शहरी जलवायु जोखिम को कम करने के लिए नियोजन का नया आयाम।

- शहरी क्षेत्र ग्रामीण क्षेत्रों की तुलना में अधिक गर्म हो जाते हैं।
- कारण: कंक्रीट, डामर, ऊँची इमारतें, हरियाली की कमी, अपशिष्ट ऊष्मा।
- प्रभाव: हीटवेव, ऊर्जा मांग, जल मांग, जन स्वास्थ्य पर प्रतिकूल असर।
- शहरी हरियाली, कूल रूफ, जल निकास और परमीएबल सतहों से निमंत्रण संभव।
- हीट एक्शन प्लान और सतत शहरी योजना आवश्यक।
- जलवायु अनुकूलन की दृष्टि से महत्वपूर्ण।

मुख्य शब्द: अर्बन हीट आइलैंड, हीटवेव, अनुकूलन, ग्रीन इंफ्रास्ट्रक्चर, स्थिरता

6 e-Shram पोर्टल और असंगठित श्रमिकों के लिए सामाजिक सुरक्षा



- असंगठित श्रमिकों का राष्ट्रीय डेटाबेस।
- श्रम एवं रोजगार मंत्रालय द्वारा कार्यान्वित।
- लक्षित कल्याण योजनाओं का लाभ पहुँचाने में सहायक।
- PMSBY, PMJJBY और अन्य योजनाओं से लिंकड।
- पोर्टबिलिटी और बेहतर नीति नियोजन को समर्थन।
- निर्माण, कृषि, घरेलू और गिंग श्रमिकों को कवर करता है।

मूल्य संवर्धन: सामाजिक सुरक्षा का सार्वभौमिकरण और डेटा आधारित नीति निर्माण में सहायक।

मुख्य शब्द: e-Shram, असंगठित श्रमिक, सामाजिक सुरक्षा, पोर्टबिलिटी, समावेशन

7 स्किल इंडिया मिशन



- वर्ष 2015 में लॉन्च, कुशल और रोजगार योग्य कार्यबल बनाने हेतु।
- उद्योग की मांग के अनुरूप प्रशिक्षण।
- गुणवत्ता प्रशिक्षण, प्रमाणन और रोजगार पर फोकस।
- युवाओं, महिलाओं और वंचित समूहों को सशक्त बनाना।
- उत्पादकता, नवाचार और वैशिक प्रतिस्पर्धा बढ़ाना।
- प्रमुख योजनाएँ: PMKVY, NAPS, ITI अपग्रेडेशन, PM-SETU।

मूल्य संवर्धन: जनसांख्यिकीय लाभांश को आर्थिक विकास में बदलने की कुंजी।

मुख्य शब्द: कौशल विकास, रोजगार, PMKVY, NAPS, ITI, मानव पूंजी

8 राष्ट्रीय सांस्कृतिक मानचित्रण मिशन



मूल्य संवर्धन: अमूर्त धरोहर के संरक्षण और रचनात्मक अर्थव्यवस्था के विकास में सहायक।

- भारत की सांस्कृतिक संपदा का डिजिटल दस्तावेजीकरण।
- कलाकारों, कला रूपों, लोक परंपराओं और संस्थानों को कवर करता है।
- संरक्षण, संवर्धन और ज्ञान साझा करने में सहायक।
- रचनात्मक अर्थव्यवस्था और पर्यटन को बढ़ावा।
- भारत की सॉफ्ट पावर को सुदृढ़ करता है।
- सांस्कृतिक नीति निर्माण के लिए डेटा आधारित दृष्टिकोण।

मुख्य शब्द: संस्कृति, दस्तावेजीकरण, विरासत, ट्रिज्म, सॉफ्ट पावर, क्रिएटिव इकोनमी

9 PIB बैंकग्राउंडर 'व्हाइट गोल्ड : भारत की कपास कहानी'



- भारत दुनिया के प्रमुख कपास उत्पादकों और उपभोक्ताओं में से एक है।
- प्रमुख राज्य: गुजरात, महाराष्ट्र, तेलंगाना, राजस्थान, पंजाब, हरियाणा, मध्य प्रदेश।
- उपयुक्त जलवायु: 21-30°C तापमान, 50-100 सेमी वर्षा।
- प्रमुख संस्थाएँ: CCI, कॉटन प्रोडक्शन ऐंड कंजंपशन कमेटी।
- चुनौतियाँ: पिक बॉलवर्म, कम उत्पादकता, जलवायु विविधता, MSP और निर्यात।
- अवसर: तकनीकी वस्त्र, वैल्यू एडिशन, सतत कपास, रोजगार और निर्यात वृद्धि।

मूल्य संवर्धन: किसानों की आय, निर्यात और वस्त्र उद्योग के लिए अत्यंत महत्वपूर्ण।

मुख्य शब्द: कपास, कृषि, CCI, MSP, पिक बॉलवर्म, वैल्यू एडिशन, निर्यात

अन्य महत्वपूर्ण वन-लाइनर



भारत में स्थापित नवीकरणीय ऊर्जा क्षमता (बड़े जलविद्युत को छोड़कर) 210 GW से अधिक।



भारत-UK CEPA वार्ता में वस्तुओं, सेवाओं और IPR पर प्रगति।



सागर माला कार्यक्रम से बंदरगाह आधारित विकास को बढ़ावा।

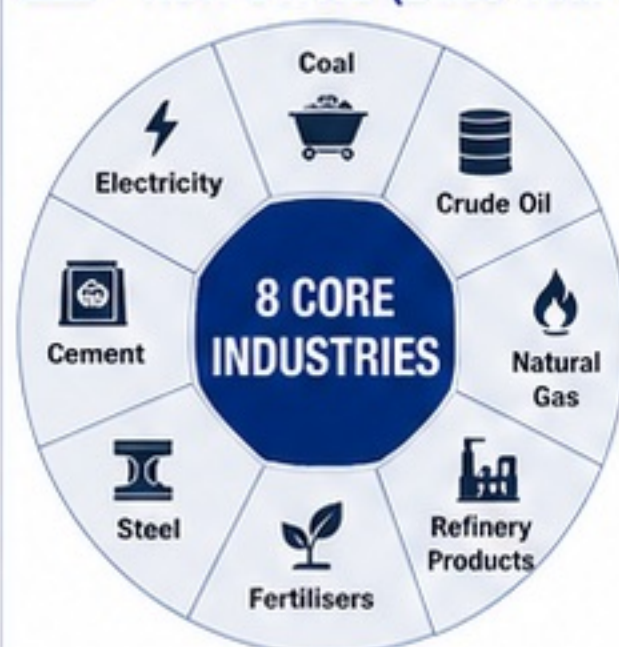


साइबर स्वच्छता केंद्र फिशिंग और डिजिटल धोखाधड़ी के खिलाफ अलर्ट जारी करता है।



मानसून पूरे देश को कवर कर चुका है; जलाशयों का जलस्तर सामान्य से बेहतर है।

1 INDEX OF CORE INDUSTRIES (ICI) New Series (Base Year 2022–23)



- Measures performance of 8 core industries.
- Together contribute ~40% of the Index of Industrial Production (IIP).
- Compiled by DPIIT.
- Leading indicator of industrial growth.
- New series with Base Year 2022–23.
- Helps in economic planning and policy formulation.

VALUE ADDITION: Used to gauge industrial momentum and sectoral trends.

KEYWORDS: ICI, IIP, DPIIT, Industrial Growth, Core Sector, Indicator

2 PRIME MINISTER SHRI NARENDRA MODI'S STATEMENT

At the Start of Monsoon Session of 2026



- Monsoon Session commenced with PM's address to both Houses.
- Outlined Government's legislative agenda and policy priorities.
- Reiterated commitment to Viksit Bharat and good governance.
- Emphasis on inclusive growth, reforms, and innovation.
- Strengthening of cooperative federalism and institutional accountability.
- Focus on welfare delivery and national security.

VALUE ADDITION: PM's statements set the tone for policy priorities and upcoming legislations.

KEYWORDS: Parliament, Monsoon Session, Legislative Agenda, Governance, Reforms, Viksit Bharat

3 UPI CROSSES 55.49 CRORE USERS (JUNE 2026)

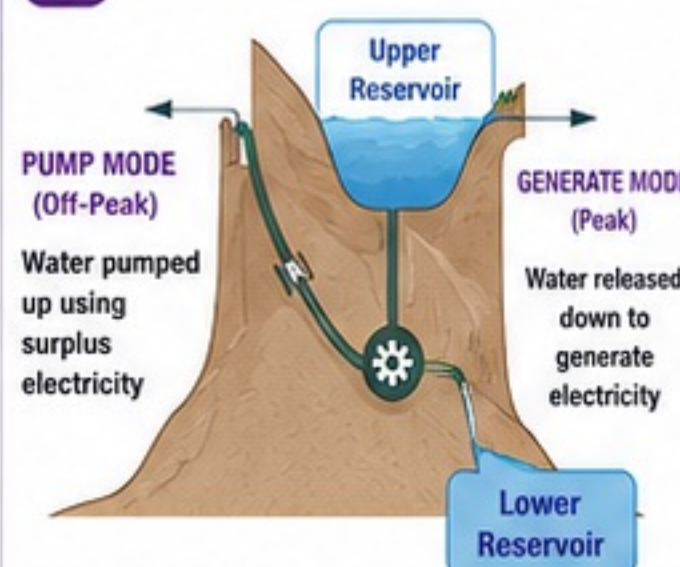


- UPI users reached 55.49 crore in June 2026.
- Operated by NPCI, promoted by RBI & IBA.
- Enables real-time, 24x7 digital payments.
- Interoperable across banks and apps.
- Supports Digital India and cashless economy.
- Drives transparency, efficiency and financial inclusion.

VALUE ADDITION: Backbone of India's digital payment ecosystem.

KEYWORDS: UPI, NPCI, Digital Payments, Financial Inclusion, JAM Trinity

4 PUMPED STORAGE PROJECTS (PSPs)



- Store energy by pumping water uphill during low demand.
- Release water to generate power during peak demand.
- Provide grid stability and load balancing.
- Enable large-scale renewable energy integration.
- High capital cost; long gestation period.
- Environment and land considerations.

VALUE ADDITION: Cheapest large-scale energy storage solution for long duration.

KEYWORDS: PSP, Energy Storage, Grid Stability, Renewable Integration, Peak Load

5 URBAN HEAT ISLAND EFFECT IN INDIAN CITIES



- Urban areas are warmer than nearby rural areas.
- Caused by concrete, asphalt, buildings, lack of vegetation & waste heat.
- Leads to heatwaves, poor air quality, high energy & water demand.
- Impacts public health and productivity.
- Mitigation: urban forests, cool roofs, blue-green infrastructure.
- Key for climate-resilient cities.

VALUE ADDITION: Linked with Climate Change Adaptation and urban planning.

KEYWORDS: Urbanisation, Heatwaves, Sustainability, Mitigation, Blue-Green Infrastructure

6 e-SHRAM PORTAL & SOCIAL SECURITY FOR UNORGANISED WORKERS



- National database of unorganised workers.
- Implemented by Ministry of Labour & Employment.
- Enables targeted welfare delivery.
- Linked with PMSBY, PMJJBY and other schemes.
- Supports portability and better policy planning.
- Includes gig, platform, construction, agri & domestic workers.

VALUE ADDITION: Supports last-mile delivery and universal social security.

KEYWORDS: e-Shram, Unorganised Workers, Social Security, Portability, Inclusion

7 SKILL INDIA MISSION



- Launched in 2015 to build a skilled and employable workforce.
- Aligns training with industry demand.
- Focus on quality training, certification and placement.
- Empowers youth, women and disadvantaged groups.
- Enhances productivity and global competitiveness.
- Key schemes: PMKVY, NAPS, ITI Upgradation, PM-SETU.

VALUE ADDITION: Foundation for demographic dividend and future of work.

KEYWORDS: Skilling, Employability, PMKVY, NAPS, ITI, Human Capital

8 NATIONAL MISSION ON CULTURAL MAPPING



- Digital documentation of India's cultural assets.
- Covers artists, art forms, folk traditions & cultural institutions.
- Promotes preservation and knowledge sharing.
- Supports creative economy and cultural tourism.
- Strengthens India's soft power globally.

VALUE ADDITION: Preserves intangible heritage and boosts cultural economy.

KEYWORDS: Culture, Documentation, Heritage, Tourism, Creative Economy

9 PIB BACKGROUNDER 'WHITE GOLD: INDIA'S COTTON STORY'



- India is one of the world's largest producers, consumers & exporters of cotton.
- Major cotton states: Gujarat, Maharashtra, Telangana, Rajasthan, Punjab, Haryana, Madhya Pradesh.
- Thrives in 21–30°C temperature and 50–100 cm rainfall.
- Key institutions: CCI, Committee on Cotton Production & Consumption.
- Issues: Pink Bollworm, low productivity, climate variability, MSP challenges.
- Opportunities: Technical textiles, value addition, sustainable cotton, exports.

VALUE ADDITION: Crucial for farmers' income, textile exports and employment.

KEYWORDS: Cotton, Agriculture, Exports, CCI, Sustainability, Textiles

OTHER IMPORTANT ONE-LINERS



India's installed renewable energy capacity (excl. large hydro) crossed 210 GW.



India-UK CEPA talks progressing across goods, services & IPR.



Sagar Mala Programme advances port-led development.



Cyber Swachhta Kendra alerts on rising phishing and digital fraud.



Monsoon covers entire country; reservoir levels show improvement.



KNOW YOUR ENGLISH

The leader trusted only his sycophants

He had a tin ear for criticism and dissenting voices

S. Upendran

What is the meaning and origin of 'tin ear'? (Rajesh Das, Cuttack)

The expression is mostly used in informal contexts to suggest disapproval. When you say that an individual has a 'tin ear', you mean that the person does not have a good or sensitive ear as far as music is concerned - being tone deaf, this individual fails to appreciate the finer things in life - music, poetry, etc. The person may also have problems picking up on the tone someone uses when speaking. He may, for example, fail to understand that someone is being sarcastic and not literal - very much like Sheldon in 'The Big Bang Theory'.

Ram's father was a great musician. But poor Ram has a tin ear.

His descriptions are fantastic. When it comes to writing dialogue, however, he has a tin ear.

People who are hard of hearing can today buy a hearing aid and slip it into their ear - others won't be able to see it. This was not the case in 18th century Europe. In the 17th and 18th centuries, people who were hard of hearing, made use of the collapsible 'ear trumpet' which was nearly 20 inches long. The instrument, shaped like a trumpet, was made out of tin - hence, those who made use of it were called 'tin ear'.

How is the word 'sycophant' pronounced? (K.S. Seetha, Hyderabad)

Many of us in India pronounce the first syllable like the 'psy' in 'psychology' and 'psychic'. Native speakers of English, however, pronounce the 'syc' like the word 'sick'. The following vowel is like the 'a' in 'china', while the final syllable rhymes with 'pant', 'chant' and 'rant'. The word is pronounced 'SICK-e-fant', with the stress on the first syllable. It comes from the Greek 'sukophantes', meaning 'informer'.

The original 'sycophant' was someone who informed the authorities about the illegal activities being carried out by others - today, there are several terms to refer to such a person - snitch, stooge, rat, etc.

Over time, the meaning of the word gradually underwent a change in meaning. From someone who pleased authorities by informing on others, today, it means someone who chooses to please the rich and the powerful through flattery.

Unlike most politicians, she chose not to surround herself with sycophants.

Which is correct? I'm an English teacher or I'm a teacher of English? (K. Damodharan, Srirangam)

In terms of grammar, both sentences are acceptable. When someone says he is a teacher of English, what he means is that teaching is his profession, and the subject he teaches is English - there is no ambiguity here. The second sentence - I'm an English teacher - is frequently heard in our country, and it can be interpreted in two different ways. Like the first sentence, it could mean that the person is someone who teaches English. But 'English teacher' could also be interpreted to mean that the teacher's nationality is English - in other words, he is from England.

TIN EAR – MEANING

- Lack of sensitivity or tone-deafness.
- Fails to appreciate finer things or detect tone.

ORIGIN OF 'TIN EAR'

- 17th–18th century Europe: hearing-impaired used long tin 'ear trumpets' (~20 inches).
- Hence, they were called 'tin ear'.

USAGE IN CONTEXT

- Implies someone misses criticism, sarcasm or dissent.
- Often used for leaders who accept only praise.

SYCOPHANT – PRONUNCIATION

- Correct: 'SICK-e-fant' (stress on first syllable).
- Not 'psy-co-fant'.

SYCOPHANT – MEANING & ORIGIN

- From Greek 'sukophantes' = informer.
- Originally: informer to authorities.

MEANING EVOLUTION

- From informer → flatterer of the rich & powerful.
- Synonyms: snitch, stooge, rat, yes-man.

GRAMMAR USAGE

- 'I am a teacher of English' → profession + subject.
- 'I am an English teacher' → profession OR nationality (British).

RELEVANCE FOR UPSC

- Language precision important in essay & ethics answers.
- Words shape perception and leadership image.

QUICK RECALL

- Tin ear = insensitive, tone-deaf.
- Ear trumpet = tin → 'tin ear'.
- Sycophant = flatterer.
- I am a teacher of English = role.
- I am an English teacher = role / nationality.

The stark reality of the missing jobs for India's Gen Z

India has one of the world's largest youth populations (371 million, according to United Nations data of 2025), often described as a demographic dividend. But this demographic dividend is only a promise and does not guarantee an automatic outcome. It pays off only when the transition occurs, enabling young people to move from classrooms into decent, productive work with higher skills. Right now, that transition is faltering, and the evidence is visible in Gen Z's employment patterns.

The term 'Gen Z' refers to individuals born between 1997 and 2012. They succeeded the Millennials (also known as Generation Y), who were born between 1981 and 1996. The working-age population for Gen Z broadly falls within the 15-26 age group, while Millennials are aged between the years 27 to 42. According to the 2023-24 Periodic Labour Force Survey (PLFS), India has an estimated 29.94 crore working-age Gen Z individuals (aged 15-26 years), compared with 35 crore Millennials (aged 27-42 years). Using the same datasets, we analyse their occupational patterns, labour force participation rates, unemployment levels, and access to social security systems.

Gen Z work status

PLFS 2023-24 estimates show that a large share of Gen Z remains engaged in education. The data show that 41.7% of young males and 38.4% of young females are studying. While this partly explains their delayed entry into the labour market, the situation of the remaining youth is a cause for concern.

When young people do enter the labour market, many are absorbed into non-salaried and casual forms of employment. Among young males, 15.8% are engaged as unpaid family workers, 12.3% are in casual work – possibly with segments of the informal economy – and only 14.8% are regular wage earners. Among female Gen Z individuals, about 35% are engaged in domestic duties (out of the labour force), 10.7% work as unpaid family workers, and only 4.7% are regular wage earners.

These patterns underline the fact that women bear this burden disproportionately. Among Gen Z females, 27.1% are engaged in domestic duties only, compared with just 0.32% of males. Even where women want paid work, they face higher unemployment and weaker labour market attachment. This is not only a matter of jobs. It also reflects childcare burdens, safety concerns, mobility constraints and social norms, and the about happens when demographic dividend never materialises. This is a weak labour market attachment: ideas and social norms, and the design of work itself. India cannot talk seriously about harnessing its demographic advantage while leaving such a large share of young women outside the paid economy.

What happens when young people try to enter



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Celebrating India's demographic dividend means little when Gen Z faces unemployment, insecurity and shrinking pathways to decent work

the labour market? The answer is concerning: too many of them are unable to find adequate employment opportunities.

The first indicator to consider is the labour force participation rate (LFPR). Among Gen Z, 41.7% are in the labour force, against 75% of Millennials. Within Gen Z, rural participation (44.1%) exceeds urban participation (37.2%), suggesting that rural youth tend to enter the labour market earlier, whereas urban youth spend more time in education and training. A sharp gender divide is also evident. Among young males, labour force participation is 59.3% in rural India and 51.3% in urban India, compared to just 28% and 21.1% respectively for young females.

The unemployment situation is even more alarming. The overall unemployment rate for Gen Z is 11.9%, compared to only 2% among Millennials. In urban India, the situation deteriorates further, with Gen Z unemployment rising to 17.1%.

For urban young women, it reaches a staggering 22.6%. This is not merely a temporary labour-market friction; it is a serious warning sign that the economy is struggling to absorb young jobseekers, particularly in areas where aspirations and educational qualifications are often higher.

The graduate trap, social security mirage

For most of the youth, education offers a gateway of opportunity: more education leading to better jobs and lower unemployment. Instead, our estimate shows the opposite at the top end. Among Gen Z males with graduate-level education or above, unemployment stands at 29%. Among Gen Z females, it is even higher at 36.9%. This is the heart of India's silent jobs crisis. The country is producing educated young people faster than it is producing suitable jobs for them.

A similar disparity persists among Millennials. Only 5.2% of male graduates and above are unemployed, but the corresponding figure for women is significantly higher at 13.8%.

This disconnect perhaps points to a deeper mismatch between the education system and labour market requirements. While part of the problem relates to skill mismatches, it is also increasingly shaped by automation and the growing adoption of artificial intelligence, both of which are altering the nature of available jobs.

That mismatch carries a deeper risk. When higher education no longer improves employment prospects quickly or reliably, frustration rises, family investment in education comes under strain, and confidence in the growth story weakens. A labour market that cannot absorb its educated youth is not just inefficient. It can become socially corrosive and

destabilising. Even for those who do find work, the quality of employment remains deeply concerning. Only 20.1% of Gen Z individuals are covered by social security, and just 14.1% have a formal job contract. Among the remaining 79.9% who lack social security coverage, only 3.2% have a job contract. Overall, only 17.3% of Gen Z workers have any form of contractual employment.

This implies that most are entering the workforce without either. The challenge, therefore, is not merely unemployment but the widespread prevalence of informal, insecure, and weakly protected work. Further, in recent years, there has been growing evidence of the informalisation of formal employment among the Gen Z population.

The situation among Millennials is only marginally better. Merely 26% have a job contract, while only 28.6% are covered by social security.

The recent large-scale violent labour protests in Noida, Uttar Pradesh, led by industrial and factory workers demanding higher wages and better working conditions, reflect the frustration that insecure and poorly protected employment can produce.

A promise deferred

India's jobs debate is too often discussed in silos: unemployment, skilling, women's work and labour force participation, and informality. However, these are not separate problems. They are one connected failure of labour market transition. Young people (Gen Z) are staying in education longer, but the bridge from education to work is weak. Women face structural barriers that keep them out or push them into unpaid roles. And even when work is found, it is too often outside the protections of formal employment.

It is time India moves beyond merely celebrating its large demographic dividend and begins treating the issue with greater urgency. Skill programmes have value, but they cannot substitute for actual job creation. The answer lies in expanding labour-intensive sectors, building stronger school-to-work pathways, linking training more closely to employers, and making it easier for women to enter and remain in paid work. Apprenticeships, formal hiring incentives, urban employment expansion, safe transport and childcare support all need to be part of the response.

The numbers tell a blunt story. India's youth challenge is no longer about whether young people are ready for work. It is about whether the economy is ready for them. Until that changes, the demographic dividend will remain what it has so far been: a promise deferred.

Gen Z Demography

- 371 million (UN, 2025).
- Age group: 15–26 years (born 1997–2012).

Workforce Participation

- LFPR: Gen Z 41.7% vs Millennials 75%.
- Rural > Urban (44.1% vs 37.2%).
- Females: 21.1% (urban), 28% (rural).

Unemployment Crisis

- Gen Z unemployment 11.9% vs Millennials 2%.
- Urban Gen Z: 17.1%.
- Urban Gen Z females: 22.6%.

Education Paradox

- Graduate unemployment: Gen Z males 29%, Gen Z females 36.9%.
- Millennial females: 13.8%.

Informal & Insecure Work

- Only 20.1% of Gen Z covered by social security.
- Only 14.1% have formal job contract.
- 79.9% lack social security (only 3.2% have contract).

Gender Disparity

- 27.1% of Gen Z females in domestic duties (vs 0.32% males).
- Women face unpaid work, weak labour market attachment.

Root Causes

- Skill mismatch, automation, AI adoption.
- Weak school-to-work transition.
- Insufficient quality job creation.

Way Forward

- Expand labour-intensive sectors.
- Strengthen skilling linked to industry.
- Improve apprenticeships, formal hiring incentives.
- Support women: childcare, safe transport, mobility.

For UPSC

- GS III: Employment, Human Capital, Inclusive Growth.
- GS II: Social Security, Gender Equity.
- Keywords: Demographic Dividend, Informalisation, Labour Market Mismatch, Human Development.

KEYWORD

Making sense of embodied AI: the next frontier in robotics

Unlike the AI chatbots that learn from texts, images, and videos, embodied AI must master gravity and balance, which are more difficult due to the countless physical scenarios a robot must face and the 'simulation-to-real gap', where success in simulation rarely translates perfectly to the real world

John Xavier

On April 14, Boston Dynamics and Google DeepMind announced that Spot, the yellow-colour robot dog that spent most of its life running narrowly scripted routines, is getting an AI brain. Gemini Robotics-ER 1.6 is being folded into Spot and into Boston Dynamics' Orbit inspection platform, giving both stronger spatial reasoning, autonomous decision-making, and the ability to keep learning inside complex industrial sites.

Spot's hardware has been good for years, but the intelligence needed to make it useful in a messy factory, without a human driving it frame by frame, is only arriving now. That gap – between a machine that can move and a machine that understands what it is moving through – is exactly what a decades-old field called embodied AI has been trying to close.

What 'embodied' actually means

The easy mistake is to think embodied AI just means "AI in a robot body." The deeper claim by experts working on this field is that a body is not a delivery mechanism for intelligence, but a part of the computation itself.

In their book *How the Body Shapes the Way We Think*, Rolf Pfeifer, long-time director of the Artificial Intelligence Laboratory at the University of Zurich, and Josh Bongard, computer science professor at the University of Vermont, argue that thought is not independent of the body but is tightly constrained, and at the same time enabled, by it.

Pfeifer has worked extensively on building physical robots to test behaviours that emerge from the body's design and look for results that tell something about intelligence in general.

Australian roboticist Rodney Brooks, who wrote the foreword for the book and whose own work at MIT in the late 1980s and 1990s made the case even more provocatively, asserting against the dominant symbolic-AI paradigm of the time, that robots didn't need internal world-models and elaborate planning to at intelligently. A layered "subsumption architecture" of simple reflexes, tightly coupled to sensors and motors, could produce robust, real-time behaviour without anyone programming a representation of the world at all.

You don't need to build an abstract map of a room if your sensors and body can just react to the room as it actually is, moment to moment. Practically, this plays out as "morphological computation" offloading work that would otherwise require a brain, onto the physical structure of the body.



Boston Dynamics' Atlas robot makes a yoga pose on the football field. SPECIAL ARRANGEMENT

Why this matters now, and why it's hard

The current wave of interest is precisely about discovering how hard that distribution problem is at scale. Unlike the AI chatbots that learn from texts, images, and videos, embodied AI must master gravity and balance, which are profoundly difficult because of the countless physical scenarios a robot must face and the "simulation-to-real gap," where success in simulation rarely translates perfectly to the real world.

Industry data bears this out starkly. Though the embodied AI market is projected to reach \$23 billion by 2030, most humanoid robots still last only about 90 minutes on a charge, and policies that succeed 95% of the time in the lab drop to roughly 60% in the real world. The gap between demo and deployment is the field's central, unglamorous problem.

Embodied AI vs. neuromorphic AI

In common discussions, people tend to conflate embodied AI with neuromorphic AI as both take biology seriously. But they answer different questions.

Embodied AI is about where intelligence lives. The field views cognition distributed across brain, and body, meaning computational work is not fixed to the brain. It is largely agnostic about what kind of processor sits inside the robot; you could run an embodied robot's "brain" on an ordinary GPU cluster.

Neuromorphic AI is about how the

For a maiden flight whose stated ambition was merely to clear the tower and gather data, reaching orbit is an important achievement: Electron, Firefly's Alpha, and ISRO's own SSLV all stumbled the first time

hold its attitude with nothing pushing it while the printed engine burns one last time.

For a maiden flight whose stated ambition was merely to clear the tower and gather data, reaching orbit is an important achievement: Electron, Firefly's Alpha, and ISRO's own SSLV all stumbled the first time.

The rocket carried five working payloads and two talismans: EMBRACE, a robotic-arm demonstration by CosmoServe Space aimed at grabbing space debris; the SOLARAS satellite from Grahra Space; Skyroot's own SCOPE experimental satellite; and two deployable-technology demonstrators, uD3PP and mD3RN, from the German firm Dcubed.

Alongside flew a lab-grown diamond lotus and an 18-karat gold micro-rocket bearing rice-grain sculptures of 'Sarabhai', 'Raman', and 'Kalam' – the three names Skyroot gives its rockets and engines. The company has said that all the payloads have been deployed.

search body-and-brain design space automatically, letting simulated populations of robotic forms compete and replicate based on task performance before anything is built.

The unresolved problems

Even as capital and models pour into the field of embodied AI, a fairly consistent list of hard problems keeps surfacing. For instance, the gap between simulation and real-world experience in using robotic systems is still not narrow. Policies trained in simulation that can be run millions of times cheaply, degrade sharply when deployed onto real hardware.

Sophisticated reasoning models are often too slow to keep pace with a robot arm or leg that needs to react in milliseconds, forcing a split between heavy "thinking" done off-device and lighter reflexive control on it. Short runtimes due to extensive battery use and vulnerable components keep undercutting otherwise successful pilots.

These systems also lack data. Text and image models were scaled on troves of internet data; embodied systems have no equivalent. Efforts like the Open X-Embodiment dataset and Generalist AI's GEN-0, pretrained on hundreds of thousands of hours of manipulation data, are attempts to build that missing corpus. But to put these systems in real world situations they need to be trained on at least tens of millions of hours of data.

Embodied AI should be viewed as a systems challenge rather than only a software challenge as safe deployment depends on sensors, hardware robustness, operational design limits, human interaction, cybersecurity, and organisational processes, not algorithms alone. Regulators must start asking for evidence of what counts as proof for allowing learning-enabled robotics systems to be deployed in real world.

All of these problems cannot be solved by a single breakthrough. They're being chipped away in parallel with better simulators to narrow the simulation-to-real gap, larger shared datasets to address exactly, split "brain in the cloud, reflex on the robot" architectures to handle the speed mismatch, and hanting maturing frameworks and slowly maturing frameworks to handle governance.

Evolutionary methods of the kind Mr. Jin champions add another angle to that effort.

Instead of only improving how a fixed body learns, they ask whether a different form factor would make the problem easier to solve in the first place.

Embodied AI systems have come a long way.

– Boston Dynamics' humanoid robot Ethas on the football field during FIFA World Cup 2026 shows how robots are able to adapt to uneven surfaces.

man.koshgr@comd another age a.f.n.a.

Embodied AI

- Intelligence emerges from brain + body + environment interaction.
- Body is part of computation (morphological computation).

Examples in News

- Boston Dynamics' Spot integrates Gemini Robotics-ER 1.6.
- Skyroot's Vikram-1 becomes India's 3rd country after US & China to reach orbit with a private rocket.

Key Challenges

- Simulation-to-real gap remains wide.
- Models slow; need split between thinking (cloud) and reflex (robot).
- Short battery life & hardware limits.

Data & Training

- Lack of large real-world datasets.
- Open X-Embodiment & GEN-0 aim to fill this gap.
- Need tens of millions of hours of real-world data.

Safety & Governance

- Deployment needs sensors, hardware robustness, human interaction, cybersecurity & operational limits.
- Regulators must demand evidence for real-world deployment.

Evolutionary Robotics

- Co-evolves body design + control systems.
- May find better body forms to solve tasks more efficiently.

Vikram-1 Highlights

- 1st private Indian rocket to reach orbit.
- Carried 5 payloads + 2 talismans.
- Demonstrates India's private space capability.

Implications for India

- Strengthens private space sector.
- Supports IN-SPACe reforms & NewSpace India.
- Robotics + AI synergy vital for future industry, defence & services.

For UPSC

- GS III – S&T, AI, Robotics, Space Tech
- Ethical AI, Safety, Governance
- Innovation, Start-ups, Industry 4.0

26 Which of the following was NOT a major feature of the Early Vedic society? (a) Semi-nomadic lifestyle (b) Clan-based social structure (c) Extensive use of iron tools (d) Cattle rearing as the main occupation	27 Which of the following sources is considered a primary source for studying the Rig Vedic period? (a) Manusmriti (b) Arthashastra (c) Rig Veda (d) Mahabharata	28 Which of the following best describes the term 'Sabha' in the Rig Vedic period? (a) A place of worship (b) An assembly for judicial and deliberative purposes (c) A military unit (d) A sacrificial altar	29 The Varna system in the Rig Vedic period was primarily based on: (a) Birth (b) Occupation and merit (c) Wealth (d) Heredity and privilege	30 Which of the following deities was associated with war and storms in the Rig Vedic period? (a) Varuna (b) Agni (c) Indra (d) Soma																				
31 Which of the following is TRUE about the position of women in the Early Vedic period? (a) Women had equal rights in education and assemblies (b) Women could not participate in religious rituals (c) Women were considered inferior to men in all aspects (d) Women were prohibited from owning property	32 Which of the following rivers is described as "Naditama" (the best of rivers) in the Rig Veda? (a) Ganga (b) Yamuna (c) Saraswati (d) Sindhu	33 Which of the following Vedic texts contains hymns in the form of melodies rather than verses? (a) Rig Veda (b) Sama Veda (c) Yajur Veda (d) Atharva Veda	34 Which of the following was the primary unit of political organization in the Rig Vedic period? (a) Janapada (b) Grama (c) Jana (d) Rashtra	35 Which of the following practices was prevalent in the Early Vedic period? (a) Idol worship (b) Animal sacrifice (c) Temple construction (d) Buddhism																				
36 Which of the following is an example of a Rishi family mentioned in the Rig Veda? (a) Bharadwaja (b) Maurya (c) Gupta (d) Chola	37 The concept of 'Rta' in the Rig Veda refers to: (a) A type of sacrifice (b) Cosmic order and truth (c) A class of people (d) A ritual hymn	38 Which of the following was the main drink offered to the deities in Vedic rituals? (a) Water (b) Soma (c) Milk (d) Honey	39 Which of the following Upanishads is the shortest? (a) Brihadaranyaka (b) Chandogya (c) Mandukya (d) Kena	40 The concept of 'Brahman' in the Upanishads refers to: (a) Supreme deity with personal form (b) Universal soul or ultimate reality (c) A ritual for liberation (d) A class of priests																				
41 Which of the following statement is correct regarding the Gayatri Mantra? (a) It is found in Mandala X (b) It is addressed to Agni (c) It is found in Mandala III (d) It is a part of Atharva Veda	42 The term 'Arya' in the Rig Veda refers to: (a) A racial group (b) A cultural and linguistic community (c) A type of deity (d) A geographical region	43 Which of the following was NOT a method of acquiring wealth in the Rig Vedic period? (a) Cattle rearing (b) Agriculture (c) Trade (d) Banking	44 The chief of the tribe in the Rig Vedic period was known as: (a) Raja (b) Samrat (c) Chakravartin (d) Senapati	45 Which of the following is a philosophical concept explored in the Nasadiya Sukta (Rig Veda X.129)? (a) Reincarnation (b) Creation of the universe (c) Karma theory (d) Devotion (Bhakti)																				
46 Match the following Vedas with their primary content: <table><thead><tr><th>Veda</th><th>Primary Content</th></tr></thead><tbody><tr><td>A. Rig Veda</td><td>1. Melodies and chants</td></tr><tr><td>B. Sama Veda</td><td>2. Hymns and verses</td></tr><tr><td>C. Yajur Veda</td><td>3. Rituals and sacrifices</td></tr><tr><td>D. Atharva Veda</td><td>4. Magic, medicine and domestic rituals</td></tr></tbody></table> Choose the correct option: (a) A-2, B-1, C-3, D-4 (b) A-1, B-2, C-3, D-4 (c) A-2, B-1, C-4, D-3 (d) A-1, B-2, C-4, D-3		Veda	Primary Content	A. Rig Veda	1. Melodies and chants	B. Sama Veda	2. Hymns and verses	C. Yajur Veda	3. Rituals and sacrifices	D. Atharva Veda	4. Magic, medicine and domestic rituals	47 Which of the following is a characteristic of the Later Vedic period? (a) Composition of Brahmanas and Aranyakas (b) Decline of cattle rearing (c) Absence of rituals (d) Rise of Buddhism		48 Match the following deities with their domains: <table><thead><tr><th>Deity</th><th>Domain</th></tr></thead><tbody><tr><td>A. Agni</td><td>1. Thunder and rain</td></tr><tr><td>B. Indra</td><td>2. Fire</td></tr><tr><td>C. Varuna</td><td>3. Cosmic order</td></tr><tr><td>D. Vayu</td><td>4. Wind</td></tr></tbody></table> Choose the correct option: (a) A-2, B-1, C-3, D-4 (b) A-1, B-2, C-3, D-4 (c) A-2, B-1, C-4, D-3 (d) A-1, B-4, C-3, D-2	Deity	Domain	A. Agni	1. Thunder and rain	B. Indra	2. Fire	C. Varuna	3. Cosmic order	D. Vayu	4. Wind
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49 Which of the following statements about the Rig Veda is correct? (a) It consists of 10 Mandalas and 108 Hymns (b) It was composed entirely by women (c) It was written in Prakrit language (d) It deals mainly with political events																								

The materials and methods that made the Vikram-1 launch unique

If its engine is printed, the airframe is woven; carbon-fibre composite – filaments of near-pure carbon set in resin – offers strength per unit weight many times that of aerospace aluminium or maraging steel; Skyroot has thus claimed a five-fold saving over the best rocket steel

Jacob Koshy

The Vikram-1 rocket, built by the Hyderabad firm Skyroot, shot through the sky a little past noon on July 18. The seven-storey-tall vehicle left ISRO's First Launch Pad at Sriharikota and, a little over 15 minutes later, placed its payloads in an orbit roughly 450 km above the earth. The mission, named 'Aagaman', Sanskrit for 'arrival', made India only the third country, after the U.S. and China, whose private industry can reach orbit on its own launch vehicle.

Rocket engines have traditionally been forged, machined, welded from dozens of parts. 3D printing inverts this. A laser fuses metal powder layer upon layer, building the part up from nothing. There are some real advantages to this approach.

An engine printed as one piece sheds the bolts, seals, and joints where conventional engines leak and fail. When Skyroot test-fired its 'Raman' engine in 2020, it said the fully printed injector halved the mass and cut component and lead time by 80% against conventional manufacturing.

Complex internal plumbing – the fine cooling channels that let Vikram-1's regeneratively cooled engine chill itself with its own propellant – can be printed in shapes no drill can reach. Prototypes emerge in days, not months, so a startup can test, fail, and redesign at a pace that would have been anathema to ISRO's supply chains. The downsides are more subtle: peer-reviewed surveys of the field flag porosity, rough internal surfaces, and batch-to-batch variability, and NASA has documented a printed copper combustion chamber failing on the test stand from degraded material quality.

A printed engine, in short, is faster and lighter but demands obsessive quality control. The flaws hide inside the layers.

Carbon-composite body

If the engine is printed, the airframe is woven. Carbon-fibre composite – filaments of near-pure carbon set in resin – offers strength per unit weight many times that of aerospace aluminium or maraging steel. Skyroot claims a five-fold saving over the best rocket steel. Every kilogram of structure trimmed is a kilogram of satellite gained.

The American company Rocket Lab's Electron rocket pioneered the approach. The material also resists fatigue and corrosion and can be laid up by automated machinery into seamless tubes, runs along the fibres, so a poorly



This photograph taken on July 7, 2026 shows a Vikram-S rocket model at Skyroot Aerospace facility on the outskirts of Hyderabad. AFP

beneath a perfect surface, demanding ultrasonic inspection where a dent in aluminium announces itself.

Both Vikram-1 and PSLV are four-stage expendable rockets that end in a restartable liquid stage for precise orbital insertion: Vikram-1's Orbital Adjustment Module is a miniature cousin of the PSLV's PS4. Both lean on India's long mastery of solid propulsion. However, the PSLV is a 44-metre, 320-tonne workhorse alternating solid and liquid stages to lift 1,750 kg to polar orbit. Vikram-1 is a 22-metre featherweight stacking three solid stages under its liquid module to carry 350 kg.

The nearer analogue is the SSLV. Both Vikram-1 and the SSLV have three solid-fuel stages capped by a small restartable liquid module, both conceived for small satellites on short notice.

On raw capacity, ISRO wins: SSLV lifts 500 kg to low-earth orbit against Vikram-1's 350 kg. However Vikram's all-carbon airframe is leaner than SSLV's conventional casings. Most of all, was designed by the state and its production licensed to Hindustan Aeronautics Limited for ₹511 crore; Vikram-1 is owned outright by its maker, financed by venture capital, and priced by the market.

First flight

According to reports, the Vikram-1 developmental flight met almost every one of its checkpoints, including the process called 'long coast', a tricky phase for a debutant, where the rocket must

For a maiden flight whose stated ambition was merely to clear the tower and gather data, reaching orbit is an important achievement: Electron, Firefly's Alpha, and ISRO's own SSLV all stumbled the first time

hold its attitude with nothing pushing it while the printed engine burns one last time. For a maiden flight whose stated ambition was merely to clear the tower and gather data, reaching orbit is an important achievement: Electron, Firefly's Alpha, and ISRO's own SSLV all stumbled the first time.

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Building rockets

Skyroot holds both of Indian private spaceflight's firsts – the suborbital Vikram-S launch in November 2022 and now an orbital launch with customer payloads.

spaceflight's firsts – the suborbital Vikram-S launch in November 2022 and now an orbital launch with customer payloads.

But Chennai's AgniKul Cosmos, incubated at IIT-Madras, is running a parallel course. Its Agnibaan SORTeD vehicle flew a suborbital flight in May 2024 from India's first private launchpad, on the world's first single-piece 3D-printed engine – a semi-cryogenic design burning liquid oxygen and kerosene, a propellant technology ISRO itself is still maturing.

Having test-fired four Agnilet engines in cluster this May, and with former ISRO chairman S. Somanath joining its board, AgniKul is working on its Mission 02: a two-stage Agnibaan attempting India's first private orbital launch this May, and an orbital payload booster orbit the rocket's upper stage at Mission 02, in late next year.

Since the 2020 reforms and IN-SPACe's creation in 2022, India's space startups have multiplied from a handful to more than 400, but until Saturday (July 18) they all needed ISRO's rockets to fly. A private launcher now could turn ISRO from gatekeeper into landlord – and turn access to orbit from a national programme into a market. The small-satellite launch business is supply-starved worldwide; Skyroot pitches itself as a "cab service" to space.

jacob.koshy@thehindu.co.in

- Private Orbit Milestone**
Vikram-1 by Skyroot Aerospace made India the 3rd country after US & China to reach orbit with a private rocket.
- 3D Printed Engine – Raman**
First fully printed engine in India. Halves mass, cuts components & lead time by 80%.
- Carbon Fiber Composite Body**
5x stronger per unit weight than rocket steel; India's longest single-piece composite stage.
- Vikram-1 vs PSLV vs SSLV**
Vikram-1: 3 solid + 1 liquid stage, 22 m tall, 350 kg to LEO.
PSLV: 4-stage, 44 m, 1,750 kg to polar orbit. SSLV: 500 kg to LEO.
- Maiden Flight Success**
Cleared all major checkpoints. Orbital insertion is a major achievement for a debutante.
- Payloads**
5 working payloads + 2 talismans including SOLARAS, SCOPE, EMBRACE (space debris demo).
- Venturing Start-up Ecosystem**
Skyroot (orbital) & AgniKul (suborbital). IN-SPACe reforms driving 400+ start-ups.
- Tech Importance**
Reusability, semi-cryogenic engines & private launch market will transform India's space economy.

Key Takeaways for UPSC

- NewSpace India: private sector participation rising.
- Tech pillars: 3D printing, carbon composites, solid + liquid propulsion.
- Policy support: IN-SPACe, reforms (enhanced FDI, easier licensing).
- Relevance: space economy, strategic autonomy, innovation, startups.

Static Linkage

- IN-SPACe: Indian National Space Promotion & Authorisation Centre.
- PSLV, SSLV: ISRO launch vehicles.
- Space Policy 2023: private sector integration, NewSpace ecosystem.

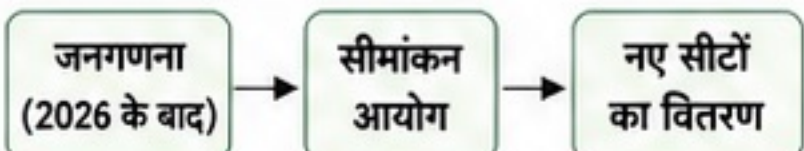
1. E20 बदलाव: ईंधन पर बहस



- E20 पेट्रोल का देशभर में समय से पहले लागू किया गया।
- उपयोगकर्ताओं ने माइलेज गिरने और झटके की शिकायत की।
- मेकैनिक: इंजेक्टर क्लॉगिंग और अधिक मरम्मत के मामले बढ़े।
- ईंधन में नमी अवशोषण से गुणवत्ता प्रभावित होने की आशंका।
- पुराने वाहनों में अनुकूलता संबंधी समस्याएँ आ सकती हैं।
- पूरी सप्लाई चैन अपग्रेड और पारदर्शिता आवश्यक।

बायोफ्यूल नीति • ऊर्जा सुरक्षा • उत्सर्जन में कमी
GS III • पर्यावरण • अर्थव्यवस्था • परिवहन

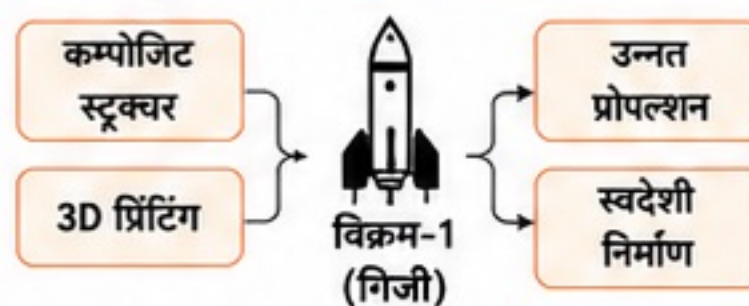
2. सीमांकन पर सरकार को अपने कहने और विधेयक में समरूपता लानी होगी



- 42वें और 84वें संशोधन से सीटों का पुनर्निर्धारण स्थगित।
- दक्षिणी राज्यों को प्रतिनिधित्व कम होने की चिंता।
- सरकारी आश्वासनों को संवधानिक पाठ में स्पष्ट होना चाहिए।
- जनसंख्या आधारित बनाम जनसंख्या स्थिरीकरण का प्रश्न।
- विधेयक में कानूनी स्पष्टता अनिवार्य।
- सहकारी संचवाद ही आगे का मार्ग है।

अनुच्छेद 81, 82, 170 • 42वां, 84वां संशोधन
GS II • संचवाद • प्रतिनिधित्व • संविधान

3. विक्रम-1 लॉन्च को अनुठा बनाने वाली सामग्री और विधियाँ



- स्काईरूट एयरोस्पेस द्वारा विक्रम-1 लॉन्च वाहन।
- हल्के कम्पोजिट और कार्बन फाइबर का उपयोग।
- एडिटिव मैन्युफैक्चरिंग से लागत और समय कम।
- प्रोपल्शन दक्षता में सुधार।
- निजी अंतरिक्ष क्षेत्र को नई गति और नवाचार।
- भारत के अंतरिक्ष अर्थतंत्र और नीतियों को बल।

IN-SPACe • न्यूस्पेस इंडिया • लॉन्च वाहन
GS III • विज्ञान एवं प्रौद्योगिकी • अंतरिक्ष

त्वरित समाचार (9)

- फिनगिंग: क्रूर और अपव्ययी प्रथा, शार्क आबादी के लिए खतरा।
- कनाडा ने छात्र प्रवेश घटाया, भारतीय छात्रों पर सबसे अधिक असर।
- अमेरिक-ईरान संघर्ष के दूसरे चरण पर नई स्थिति और क्षेत्रीय तनाव।
- F&O बाजार में तेजी, निवेशक संरक्षण के लिए कड़े नियम जरूरी।
- डीपसीक (DeepSeek) पूंजी जुटाएगा, \$74 अरब बैल्यूएशन पर बातचीत।
- L&T व्योमा की AI फैक्ट्री चेन्नई में: उद्योग जगत के लिए बड़ा कदम।
- क्योटो में शताब्दियों पुराना गिओन मात्सुरी त्योहार बड़े उत्साह के साथ मनाया गया।
- दलदली क्षेत्रों में क्विकसैंड: रेत, मिट्टी और पानी का अस्थिर मिश्रण।
- गालियाँ असभ्य हो सकती हैं, लेकिन कानून की दृष्टि से अश्लील नहीं: सुप्रीम कोर्ट।

4. 'मेलबर्न मीट्स मोदी' से कहीं अधिक



- भारत-ऑस्ट्रेलिया संबंध बहुआयामी और गहरे हुए।
- इंडो-पैसिफिक में सामरिक सहयोग और सुरक्षा संवाद।
- व्यापार, महत्वपूर्ण खनिज और सप्लाई चैन साझेदारी।
- शिक्षा, विश्वविद्यालय, विज्ञान और तकनीक में सहयोग।
- लोग-to-लोग संपर्क और प्रवासी समुदाय महत्वपूर्ण।
- क्वाड, आपदा राहत और समुद्री सुरक्षा पर सहयोग।

QUAD • इंडो-पैसिफिक • महत्वपूर्ण खनिज
GS II • अंतराष्ट्रीय संबंध • कूटनीति • अर्थव्यवस्था

5. भारत के जेन-जी के लिए गायब नौकरियों की कठोर सच्चाई



- नौकरी सृजन युवाओं की आकांक्षी के अनुरूप नहीं।
- शिक्षा-उद्योग कौशल असंगति बनी हुई है।
- स्वचालन से श्रम-महन नौकरियाँ प्रभावित।
- महिला श्रम बल भागीदारी निम्न स्तर पर।
- MSME और विनिर्माण क्षेत्र का सीमित विस्तार।
- कौशल, अप्रेटिसशिप और श्रम सुधार आवश्यक।

स्किल इंडिया • PLI • स्टार्टअप इंडिया • NEP
GS III • रोजगार • अर्थव्यवस्था • श्रम • सामाजिक क्षेत्र

6. पंख फैलाते हुए (संपादकीय)



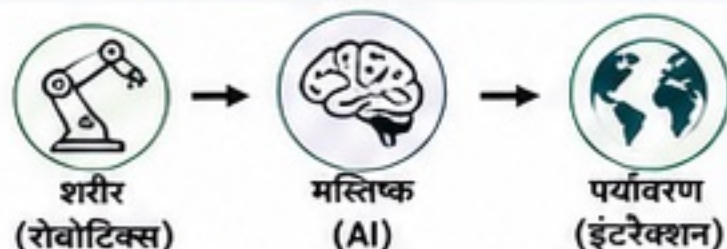
- विमानन क्षेत्र तीव्र गति से बढ़ रहा है।
- हवाई अड्डों, मार्गों और यात्रियों की संख्या में वृद्धि।
- पायलट, ATC और मेंटेनेंस स्टाफ की कमी।
- नियामक क्षमता और निगरानी सुदृढ़ करनी होगी।
- अवसंरचना विस्तार और सुरक्षा साथ-साथ चलें।
- सतत, सुरक्षित और समावेशी विकास आवश्यक।

UDAN • DGCA • AAI • AAIB
GS III • अवसंरचना • विमानन • सुरक्षा • लॉजिस्टिक्स

प्रीलिम तथ्य (9)

- E20 पेट्रोल = 20% एथेनॉल + 80% पेट्रोल।
- सीमांकन फ्रीज 42वें और 84वें संशोधन (1976, 2001) से बढ़ाया गया।
- विक्रम-1 लॉन्च वाहन: स्काईरूट एयरोस्पेस द्वारा विकसित।
- QUAD समूह: भारत, अमेरिका, ऑस्ट्रेलिया, जापान।
- UDAN योजना: क्षेत्रीय हवाई संपर्क के लिए सरकारी योजना।
- एम्बोडर्ड AI = मस्तिष्क + शरीर + पर्यावरण के संयर्क से सीखने वाली AI।
- ताजमहल AMASR अधिनियम, 1958 के तहत संरक्षित स्मारक।
- होर्मुज जलडमरूमध्य फारस की खाड़ी को ओमान की खाड़ी से जोड़ता है।
- ASI भारत सरकार के संस्कृति मंत्रालय के अधीन कार्य करता है।

7. एम्बोर्डर्ड AI: रोबोटिक्स में अगली सीमा



- मस्तिष्क, शरीर और वातावरण के मेल से बुद्धिमत्ता उत्पन्न।
- भौतिक रूप से काम करते हुए सीखने की क्षमता।
- मॉफीलॉजिकल कंप्यूटेशन से दक्षता बढ़ती है।
- चुनौतियाँ: डेटा, सुरक्षा, बैटरी, लागत, विश्वसनीयता।
- AI + रोबोटिक्स = उद्योगों में बड़ा परिवर्तन।
- नैतिक उपयोग और शासन ढाँचा जरूरी।

AI • रोबोटिक्स • न्यूरोमॉर्फिक • ऑटोमेशन
GS III • विज्ञान एवं प्रौद्योगिकी • नवाचार • उद्योग 4.0

8. परिपक्व दृष्टिकोण (संपादकीय)



- नीति-निर्माण अधिक परिपक्व और संस्थागत हो रहा है।
- डेटा, विश्लेषण और दीर्घकालिक योजना पर जोर।
- रणनीतिक धैर्य और निरंतरता महत्वपूर्ण।
- संस्थाओं की क्षमता और समन्वय बढ़ाना आवश्यक।
- राष्ट्रीय हित और वैश्विक सहभागिता में संतुलन।
- सहकारी संघवाद और जन-केन्द्रित शासन पर जोर।

सुशासन • नीति स्थिरता • संस्थाएँ • उत्तरदायित्व
GS II • शासन • सार्वजनिक नीति • नैतिकता

9. ताजमहल से जुड़ा कानूनी विवाद क्या है?



संरक्षित स्मारक
भारतीय पुरातत्व सर्वेक्षण द्वारा प्रबंधित
AMASR अधिनियम, 1958

- प्रबंधन, पहुंच और संरक्षण को लेकर याचिकाएँ दायर।
- AMASR अधिनियम, 1958 के अंतर्गत संरक्षित स्मारक।
- न्यायालय ने विधिक साक्ष्यों पर आधारित सुनवाई की।
- संरक्षण, पर्यटन और विरासत का संतुलन आवश्यक।
- अनुच्छेद 49 व 51A(f) में स्मारकों की रक्षा पर बल।
- संरक्षण के साथ कानूनी प्रक्रिया का सम्मान जरूरी।

ASI • विरासत • संस्कृति • न्यायपालिका

शब्दावली (5)

- विचारशील** — सोच-समझकर निणय लेने वाला।
- सूक्ष्म-भेदक** — बारीकी से अंतर करने वाला।
- अनिवार्य** — अत्यावश्यक; आवश्यक।
- जिम्मेदार** — उत्तरदायित्व लेने वाला।
- लचीला** — परिस्थिति के अनुसार ढलने वाला।

1. THE E20 TRANSITION: FUEL FOR DEBATE



- Nationwide E20 rollout ahead of target.
- Concerns: mileage drop, jerky drive.
- Mechanics report more engine issues.
- Moisture absorption affects fuel quality.
- Older vehicles may face compatibility issues.
- Supply chain upgrade and transparency vital.

Biofuel Policy • Energy Security • Emission Cut
GS III • Environment • Economy • Transport

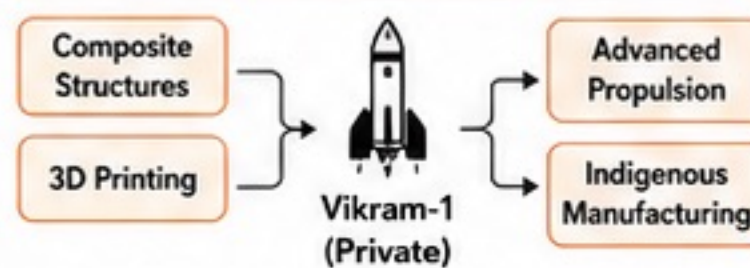
2. CENTRE MUST ALIGN DELIMITATION WITH THE BILL



- Current freeze due to 42nd & 84th CAA.
- Southern States fear loss of representation.
- Assurances must reflect in constitutional text.
- Balance: population principle vs fairness.
- Legal clarity needed in the delimitation Bill.
- Cooperative federalism is the way forward.

Articles 81, 82, 170 • 42nd, 84th CAA
GS II • Federalism • Representation

3. MATERIALS & METHODS BEHIND VIKRAM-1 LAUNCH



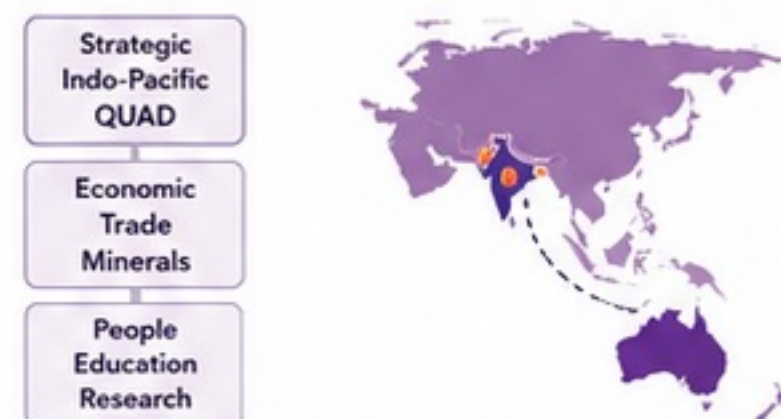
- Vikram-1 by Skyroot Aerospace.
- Use of lightweight composite & carbon fibre.
- Additive manufacturing reduces cost.
- Advanced propulsion improves efficiency.
- Boosts private space sector & innovation.
- Supports India's space economy & policy.

IN-SPACe • NewSpace • Launch Vehicles
GS III • Science & Tech • Space

QUICK NEWS (9)

- 1 Finning: cruel, wasteful practice threatens shark populations.
- 2 Indians worst hit as Canada cuts down on student intake.
- 3 On the second phase of U.S.-Iran war; risks to shipping & energy.
- 4 F&O boom needs adequate protections for investors.
- 5 DeepSeek to raise capital at \$74 billion valuation.
- 6 Inside L&T Vyoma's Artificial Intelligence factory in Chennai.
- 7 Kyoto celebrates centuries-old Gion Matsuri festival.
- 8 Quicksand in the marshland: sand, clay & water mixture.
- 9 SC: swear words uncivil, but not obscene by law.

4. MUCH MORE THAN 'MELBOURNE MEETS MODI'



- India-Australia ties go beyond diaspora events.
- Strategic convergence in Indo-Pacific.
- Trade, critical minerals & supply chains grow.
- Education, research & technology partnerships.
- Shared interests in security & stability.
- Comprehensive Strategic Partnership in action.

QUAD • Indo-Pacific • Critical Minerals
GS II • IR • Diplomacy • Economy

5. STARK REALITY OF MISSING JOBS FOR INDIA'S GEN Z



- Job creation not matching youth aspirations.
- Education-industry skill mismatch persists.
- Automation & digital disruption impact jobs.
- Low female labour force participation.
- Boost manufacturing, MSMEs & startups.
- Skilling, apprenticeships & labour reforms key.

Skill India • PLI • Startup India • NEP
GS III • Employment • Economy • Labour

6. SPREADING WINGS (EDITORIAL)



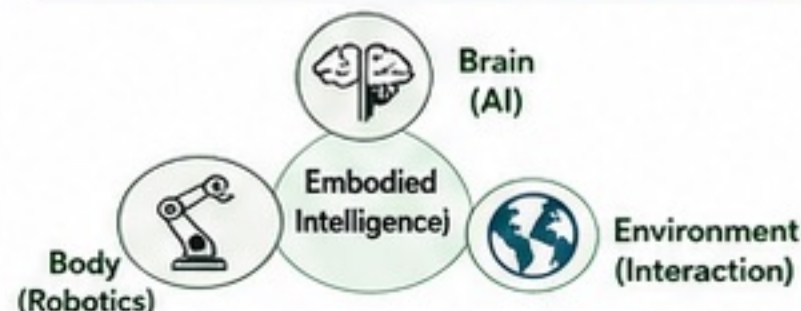
- Aviation sector growing rapidly.
- More airports, routes & passengers.
- Pilot, ATC & maintenance staff shortage.
- Regulatory capacity must strengthen.
- Infrastructure + safety must grow together.
- Sustainable growth with safety at core.

UDAN • DGCA • AAI • AAIB
GS III • Infrastructure • Aviation • Safety

PRELIM FACTS (9)

- 1 E20 petrol = 20% ethanol blend with 80% petrol.
- 2 Delimitation freeze extended by 42nd & 84th CAA.
- 3 Vikram-1 launched by Skyroot Aerospace.
- 4 QUAD = India, Australia, U.S., Japan grouping.
- 5 UDAN Scheme connects regional airports.
- 6 Embodied AI = brain + body + environment interaction.
- 7 Taj Mahal protected under AMASR Act, 1958.
- 8 Strait of Hormuz links Persian Gulf to Arabian Sea.
- 9 ASI works under Ministry of Culture, Govt. of India.

7. EMBODIED AI: NEXT FRONTIER IN ROBOTICS



- Intelligence from brain-body-environment.
- Physical form aids computation.
- Learns through real-world interaction.
- Challenges: data, safety, battery, cost.
- AI + robotics to transform industries.
- Ethical use & governance frameworks vital.

AI • Robotics • Neuromorphic • Automation
GS III • S&T • Innovation • Industry 4.0

8. MATURING APPROACH (EDITORIAL)



- Policy making becoming more mature.
- Evidence, data & long-term planning essential.
- Institutional strengthening & continuity.
- Strategic patience in complex challenges.
- Cooperative federalism where needed.
- National interest with global engagement.

Good Governance • Policy Stability
GS II • Governance • Institutions • Ethics

9. LEGAL TUSSELE AROUND THE TAJ MAHAL



- Disputes over management, access & claims.
- Heritage protection under AMASR Act, 1958.
- Court examines issues on legal evidence.
- Conservation, tourism & public interest.
- Articles 49 & 51A(f) guide protection.
- Balance heritage, faith & rule of law.

ASI • AMASR Act • UNESCO • Art.49, 51A(f)
GS I • Heritage • Culture • Judiciary

VOCABULARY (5)

- Deliberate — Thoughtful; done with careful consideration.
- Nuanced — Showing subtle differences; not simplistic.
- Imperative — Absolutely necessary; of vital importance.
- Prudent — Wise; acting with care and foresight.
- Resilient — Able to recover quickly from difficulties.

ESSAY TOPICS**ENGLISH**

- 1** Progress without compassion is incomplete.
- 2** Water defines the future of civilization.
- 3** Human values are the strongest defence against technological disruption.
- 4** Ethics is the invisible infrastructure of governance.

हिंदी

- 1** करुणा के बिना प्रगति अपूर्ण है।
- 2** जल भविष्य की सभ्यता को परिभाषित करता है।
- 3** मानव मूल्य तकनीकी विघटन के विरुद्ध सबसे मजबूत रक्षा हैं।
- 4** नैतिकता शासन की अदृश्य आधारभूत संरचना है।

**TIME: 90 MINUTES****MAXIMUM MARKS: 125****BASIC STRATEGY TO MAXIMISE MARKS IN ESSAY**

- 1** Choose the topic with maximum dimensions.
- 2** Brainstorm for **8–10 minutes** before writing.
- 3** Write a balanced, multi-dimensional essay.
- 4** Support arguments with examples, facts, Constitution & thinkers.
- 5** Maintain logical flow with smooth transitions.
- 6** Write a strong introduction and an optimistic conclusion.
- 7** Keep the essay relevant throughout; avoid repetition.
- 8** Reserve the last **5 minutes** for revision.