Topics - MINDS MAPS included (Daily current affairs 25th November 2024

SAURABH PANDEY
CSE
SON CHIEF INCUSTORIST
ROOM BANCS TO UPPE BRILLIANCE

- Kandakarnan
- Urban Development Challenges in India
- 6GHZ
- Fossil Fuel Exports and Climate Accountability at the UN Climate Conference
- MAINS



By saurabh Pandey



Target Mains -2025/26 -

Q "Spiritual and cultural practices can play an important role in economic growth of the region". Illustrate

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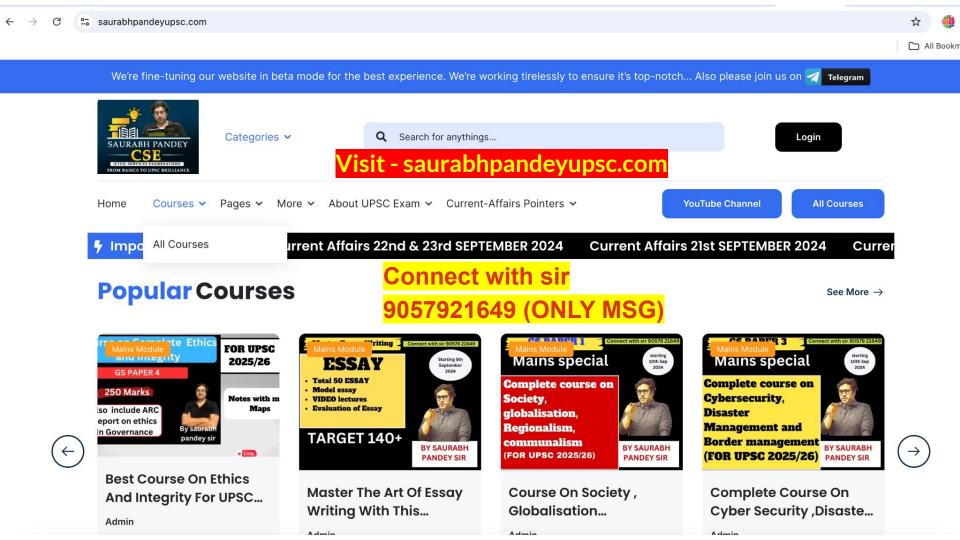
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Both English and Hindi



Dance with fire





Stage ablaze: An artist performs Kandakarnan Thirra, a traditional ritual art form, in Kozhikode district of Kerala on Sunday. PTI

Topic → **Kandakarnan**



- Kandakarnan is a popular theyyam performed in various temples and cultural sites in Kerala.
- It is featured during the annual thira theyyam kaliyattam festival in the Kannur and Kasaragod regions.
- Kandakarnan is classified as a Shaiva theyyam, associated with the worship of Lord Shiva.
 - o It is recognized as one of the Shiva Ganas, specifically a Shiva bhootha gana.
- The performance takes place in locations such as kavu, devasthanams, and tharavadu.

 The festival celebrates the rich cultural heritage and traditions of the local community.



 Kandakarnan theyyam plays a significant role in the spiritual and cultural practices of the region.

Summary: Kandakarnan is a significant Shaiva theyyam performed during the thira theyyam kaliyattam festival in Kerala, highlighting local traditions and worship of Lord Shiva



What is Theyyam?



Theyyam is a sacred Hindu ritual that combines dance, mime, music, and worship, and is performed in Kerala and parts of Karnataka:

What it is

Theyyam is a folk ritual that originated in North Kerala and is also known as Kaliyāṭṭaṁ or Tira. It's a form of worship that celebrates the beliefs of ancient tribals and the spirits of their ancestors.

What it involves

Theyyam performances feature colorful costumes and makeup, headgear, arm ornaments, breastplates, bangles, garlands, and other body decorations. The performers, called "Kolam", run around the shrine and its courtyard, distribute turmeric powder, and throw rice on the audience.



When it takes place

Theyyam performances are held most nights between dusk and dawn from October to April. The timing is determined by astrologers using the local Malayalam calendar.

Where it takes place

Theyyam performances are often performed during temple festivals and religious ceremonies, especially in Kerala's Kannur and Kasaragod districts

India's urban infrastructure financing, needs and reality

India's urban population will increase from 400 million in the last decade to 800 million over the next three decades. While this offers an opportunity to transform India's urban landscape, there are significant financial challenges that must be overcome to get there. A recent World Bank report estimates that India will require about ₹70 lakh crore by 2036 to meet its urban infrastructure needs. Current government investment (2018 figures) in urban infrastructure stands at around ₹1.3 lakh crore annually. This is just a little over one-fourth of the required ₹4.6 lakh crore per year. Broadly, about 50% is estimated for basic urban services, with the other half for urban transport.

Issues at the local level

Municipal finances, a crucial component of urban infrastructure funding, have remained stagnant for decades. Since 2002, municipal finance has stayed at just 1% of GDP. Municipal bodies contribute 45% of urban investments, while the remainder is managed by parastatal agencies. Despite an increase in central and State transfers from 37% to 44%, the financial health of municipalities remains precarious. Tax revenue grew by only 8% between 2010 and 2018, grants by 14%, and non-tax revenue by 10.5%. However, the share of municipalities' own revenue sources has declined from 51% to 43%, reflecting a diminishing capacity for self-sufficiency.

Collection inefficiencies also exist in urban local bodies (ULB). For instance, data from 2017-18 reveals that ULBs in Bengaluru and Jaipur collect only 5%-20% of their potential tax revenue. Nationwide, property tax collection stands at a paltry ₹25,000 crore, which is only 0.15% of GDP. Further, cost recovery for services ranges from 20% to 50%, highlighting the significant gap between the costs of urban

services and the revenues generated from them.
Indian cities also struggle with low absorptive capacity, further complicating the urban infrastructure landscape. According to the Fifteenth Finance Commission report, about 23% of total municipal revenue remains unspent, indicating a surplus in the municipal system that



Madhav Pai

Chief Executive

Officer, WRI India

With the urban

population set

exponentially,

urban India's

future depends

on the ability to

address the key

financial and

structural

challenges

to rise

is not being effectively utilised. Even major cities such as Hyderabad and Chennai only managed to spend 50% of their capital expenditure budgets in 2018-19. The utilisation of central scheme funds also leaves much to be desired, with the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) achieving 80% utilisation and the Smart Cities Mission reaching 70%.

Public-private partnerships (PPPs), another crucial avenue for urban infrastructure financing, have seen a marked decline over the past decade. PPP investments in urban infrastructure peaked at ₹8,353 crore in 2012 but plummeted to just ₹467 crore by 2018. The viability of PPP projects is often dependent on the availability of payments or viability funding for ensuring bankability; but due to the lack of project-specific revenues, these projects further diminish commercial attractiveness.

The next step is reform

Given the myriad of financial challenges outlined, it is imperative to adopt a dual-pronged approach with specific long-term and medium-term measures. In the long term, carrying out structural reform would be critical. These reforms should include strengthening State finance commissions to enhancing autonomy and capacity for better financial management at the municipal level. Additionally, empowering municipal governments with greater financial and administrative autonomy will be critical in enabling them to manage and allocate resources more effectively for urban development. This can then attract the much-needed private capital, through mechanisms such as debt borrowing. and municipal bonds.

In the medium term, the following measures can significantly transform the development of sustainable urban infrastructure.

First, develop a robust pipeline of projects.

The High-Powered Expert Committee and 12th Plan Working Group have developed a financing framework to meet the ₹70 lakh crore urban infrastructure investment requirement over the next 20 years. About 15% of this total investment

could potentially come through PPPs, translating to roughly 250-300 PPP projects annually. To achieve this, a pipeline of 600-800 projects must be in place.

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CSE

Second, decouple project preparation from financial assistance. The last two decades have shown that investments in urban infrastructure have not advanced to the extent required, often due to hurried project preparation. As new national programmes are conceived, it is essential to decouple project preparation from financial assistance. Ensuring that these projects are designed for financial, social, and environmental sustainability is vital, especially given India's vulnerability to climate change.

Third, leverage Digital Public Infrastructure (DPI) for improved operations. Urban service delivery, particularly in public transport, remains hampered by outdated practices. Embracing DPI can revolutionise the management and the operation of public services, positioning India as a global leader in this domain.

Fourth, capture land value in transport projects. With half of the ₹70 lakh crore investment by 2036 earmarked for urban transport, particularly metro rail projects, there is a unique opportunity to harness land value. Metro and rail projects should be integrated with urban development, ensuring that they bring jobs closer to transit hubs and contribute to the overall efficiency and design of cities.

The need for collaboration

To conclude, India's urban future hinges on the ability to address these financial and structural challenges head-on. The stakes are high, and this is the window for action. By pursuing both immediate and long-term strategies, India can build urban infrastructure that meets the demands of its growing cities, thus ensuring sustainable and inclusive development for the decades to come. The path forward will require collaboration across government levels, private sector participation, and a relentless focus on innovation and governance efficiency.

The views expressed are personal

Topic → **Urban Development Challenges in India**



Urban Population Growth

Projection: India's urban population is expected to double from 400 million to 800 million over the next 30 years.

Infrastructure Funding Needs 💰

Requirement: ₹70 lakh crore needed by 2036 for urban infrastructure.

Current Investment: Government invests ₹1.3 lakh crore annually.

Stagnant Municipal Finances



GDP Contribution: Municipal finance has been stagnant at 1% of GDP since 2002.

Investment Role: Municipalities contribute 45% to urban investments.

Revenue Collection Issues 📊

Inefficiencies: Urban local bodies collect only 5%-20% of potential tax revenue.

Property Tax: Collection is ₹25,000 crore, which is 0.15% of GDP.

Underutilization of Funds 🌇

Unspent Revenue: 23% of municipal revenue remains unspent.

City Utilization: Major cities like Hyderabad and Chennai use only 50% of their capital expenditure budgets.



Decline in PPP Investments

Decrease: Public-private partnerships in urban infrastructure fell from ₹8,353 crore in 2012 to ₹467 crore in 2018.

Cost Recovery Challenges

Service Costs: Cost recovery for urban services is between 20% to 50%, showing a gap between costs and revenues.

Summary: India's urban population is set to double, but financial challenges, stagnant municipal finances, and inefficiencies in revenue collection hinder infrastructure development.

Key Strategies for Urban Development



Dual-Pronged Approach: Implementing both long-term structural reforms and medium-term measures is vital for tackling financial challenges in urban development.

m Strengthening Municipal Governance: It's essential to enhance the autonomy and capacity of State finance commissions and municipal governments for effective resource management.

Investment Requirement: India requires ₹70 lakh crore for urban
infrastructure over the next 20 years, with 15% potentially sourced from
Public-Private Partnerships (PPPs).

Project Pipeline Development: Developing a robust pipeline of 600-800 projects is necessary to facilitate 250-300 PPP projects annually.

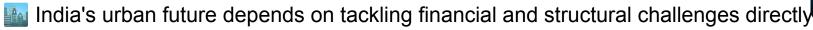


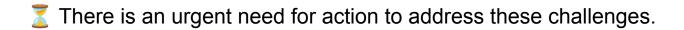
Sustainability Focus: Projects must be designed for financial, social, and environmental sustainability, especially considering climate change vulnerabilities.

■ Digital Public Infrastructure: Leveraging Digital Public Infrastructure (DPI) can enhance urban service delivery, particularly in public transport, modernizing operations and management.

Land Value Capture: Integrating land value capture in urban transport projects, especially metro rail, can optimize urban development and job accessibility.

Conclusion





Both immediate and long-term strategies are essential for developing urban infrastructure.

- Sustainable and inclusive development is a key goal for India's growing cities.
- Collaboration among government levels and private sector involvement is crucial.
- A strong emphasis on innovation and governance efficiency is necessary for progress.
- The path forward requires a comprehensive approach to urban development.

Summary: India's urban future relies on addressing financial and structural challenges through collaboration, innovation, and sustainable strategies





Why India's 6Ghz spectrum dilemma is affecting PS5 Pro console launch in India?

In India and throughout the world, WiFi has mainly used two key bands of frequency — 2.4GHz and 5GHz. By 2021, several regulatory authorities around the world began de-licensing a third band of spectrum for WiFi. However, India and China have not yet allowed the use of 6GHz spectrum

Aroon Deep

The story so far: arlier in November, the PlayStation 5 Pro console was released in key markets around the world, but no announcement was made regarding India. On November 8, Sony said, "PS5 Pro will not be available in some countries (which presently includes India)

where 6GHz wireless band used in IEEE

802.IIbe (Wi-Fi 7) has not yet been What's the history on WiFi bands?

In India and throughout the world, WiFi has mainly used two key bands of frequency - 2.4GHz and 5GHz. Home broadband users may recognise these frequencies as separate transmissions from the same router - 2.4GHz has limited data bandwidth, but can blanket a larger area with coverage, 5GHz is significantly faster, but covers a shorter distance. The frequencies for the spectrum used by these WiFi bands was de-licensed for indoor and outdoor use separately in India starting in 2002.

This state of WiFi technology remained the same well into the introduction of WiFi 6 in 2020. That technology uses both 2.4GHz and 5GHz frequencies

simultaneously, with greater efficiency, resulting in better speeds. But in 2021, WiFi 6E was introduced, splitting the world into two regions: those who allowed the use of 6GHz spectrum, and those that didn't.

What is 6GHz spectrum and what does it have to do with WiFi?

By 2021, several regulatory authorities around the world, including Japan, Mexico, South Korea, Taiwan, United Arab Emirates, the U.K., and the U.S. began de-licensing a third band of spectrum for WiFi. The WiFi 6E standard was introduced that year, allowing the creation of routers that broadcast on this frequency, bringing up theoretical maximum speeds to 9.6Gbps. This relied on the band of spectrum between 5,925MHz and 7,125MHz, known as 6GHz

But in several countries, that is not yet the case. India and China have not allowed the use of 6GHz spectrum for WiFi vet. While the International Telecommunications Union (ITU) generally tries to keep wireless requencies for telecom, WiFi, satellite and other use cases uniform around the world, several countries have not yet agreed on a standard division of the 6GHz

Who has the 6GHz band in India, and | consumer electronics' interests are who wants it?

The 6GHz band is currently with the Indian Space Research Organisation (ISRO) for satellite use cases. However, satellite communications over 6GHz are unlikely to interfere meaningfully with WiFi-like use cases; at any rate, at the World Radiocommunications Conference last year, India and some other countries were able to get an extension till 2027 on what to do with some or all of the

spectrum. Around the world, and certainly in India, telecom operators have expressed intense interest in getting 6GHz spectrum for 5G and 6G, a demand that India may be poised to entertain. Tech companies, such as those represented by the Broadband India Forum - Google, Meta, Amazon, and others - have argued for a U.S.-like allocation for this spectrum to WiFi. Both camps seem to be pushing for the entire 6GHz band to be used for either telecom or WiFi. The government may follow the lead of countries like Australia. which have de-licenced half the spectrum, while considering what to do with the other half.

own right, it is not entirely clear that the

What comes next? While the 6GHz debate is complex in its

significantly impacted by India's decision.

Apple and Samsung phones sell in India with the exact same support for 6GHz WiFi, for instance, but the WiFi feature is programmed to avoid connecting to 6GHz spectrum. Presumably, Sony could do the same, by making consoles sold in India incompatible with this band of spectrum

until regulatory clarity emerges. If and when Sony decides that this is worth the work, or if they decide to inves in manufacturing a separate variant of the PS5 with older WiFi hardware, it will release in India.

At any rate, WiFi 7 as a technology does not need 6GHz to work in India. Advances in WiFi technology are based not (just) on newer bands of wireless spectrum, but in greater efficiency and using these bands simultaneously. Even without the 6GHz spectrum, WiFi 7 routers can be sold in India that make the maximum wireless speed faster than any home broadband plans that are even sold here in the first place.

In response to a query from The Hindu the Department of Telecommunications said that if "a router or device's operating frequency is restricted to ... de-licensed bands, they are permitted to be used in the country'

TOPIC -- 6GHZ

Global Adoption: By 2021, multiple countries including Japan, Mexico, South Korea, Taiwan, UAE, the U.K., and the U.S. began de-licensing the 6GHz spectrum for WiFi use.

III WiFi 6E Standard: The introduction of the WiFi 6E standard in 2021 enabled routers to operate on the 6GHz frequency, enhancing performance.

✓ Speed Potential: The theoretical maximum speeds achievable with the 6GHz spectrum can reach up to 9.6Gbps.

Frequency Range: The 6GHz spectrum is defined as the frequency range between 5,925MHz and 7,125MHz.

Note that Note that Note is a spectrum of the like India and China have not yet permitted the use of the 6GHz spectrum for WiFi. ■

International Standards: The International Telecommunications Union (ITU) aims for uniformity in wireless frequency allocation, but consensus on the 6GHz band division is still lacking in some regions.

Regulatory Challenges: Disagreements among countries regarding the standard division of the 6GHz band hinder global implementation.

Summary: The 6GHz spectrum, crucial for WiFi 6E, is being adopted globally but faces regulatory challenges in certain countries

The 6GHz Spectrum in India: Current Use and Future Prospects

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Current Allocation and Usage

The 6GHz band is currently allocated to the Indian Space Research Organisation (ISRO) for satellite communications.

Satellite communications over this band are not expected to significantly interfere with WiFi-like applications.

Future Considerations and Interests

Z At the World Radiocommunications Conference, India secured an extension until 2027 for the use of the 6GHz spectrum.

Telecom operators in India are showing strong interest in acquiring the 6GHz spectrum for 5G and 6G technologies.

■ Tech companies, represented by the Broadband India Forum, advocate for a U.S.-style allocation of the 6GHz band for WiFi use.

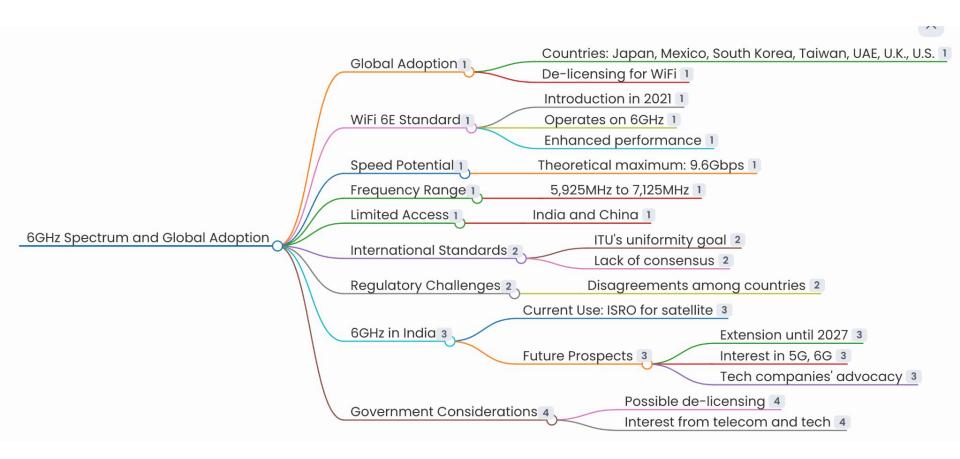
There is a push from both telecom operators and tech companies for the entire 6GHz band to be designated for either telecom or WiFi.

Government Considerations

The Indian government may consider following Australia's example of de-licensing half of the 6GHz spectrum while deliberating on the other half.

Summary

The 6GHz band in India is currently held by ISRO for satellite use, but there is significant interest from telecom operators and tech companies for its allocation for 5G, 6G, or WiFi applications.





Titan Cement's Alexandria Portland Cement Company factory in the Mediterranean city of Alexandria, Egypt. SEUTERS

Countries vulnerable to climate tense over 'exported emissions'

Reuters

Fossil fuel exports have been a hot topic at the United Nations climate conference in Baku this year, with activists and delegates from some climate vulnerable countries argaing nations should be held overseas – often to poor developing, nations – in the form of oil, gas and coal, some are seeking to get the question of how to do this onto the agenda at future climate tumming.

now to do themenous one agencia as trustee A landmark agreement reached in Paris in 2015 to fight climate change requires countries to set target and report on progress in reducing national report on progress in reducing national report on progress in reducing national requirements for emissions generated from forsoil tuels they drill, mine, and ship that the state of the countries like the United States, Norway, Martaila, and

United States, Norway, Australia, and cheen to one jihe are making progress dalor producing and exporting fossil finels also producing and exporting fossil finels are breakness; pace, and Bill Bare, on States of Chimite Action Tracker, an co-founder of Climate Action Hardes government climate action.

U.S. fossil fixed exports—including coal, aga, and refined fasts—led to over 2 equivalent emissions in other countries in 2022, according to Climate Action
Tracker. That is equivalent to about a third countries of the countries of

showed.
A years-long drilling boom has made
The Paris Agreement of 2015
requires that nations set targets
to cut levels of greenhouse gas
emissions. But there are no such
strictures on emissions from fuels
drilled, mined, and exported

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European countries seeking to reduce
dependence on Russia, while Chinn has
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crude and coal, America's biggest growth
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lillion short nome globally in the first
half of 2024, up nearly 7% from the same
period a year ago, the data showed. Much

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Topic -- Fossil Fuel Exports and Climate Accountability at the UN Climate Conference



Overview

Hot Topic: Fossil fuel exports debated at the UN climate conference in Baku 🌍 Key Stakeholders: Activists, delegates from climate-vulnerable countries Main Argument: Accountability for overseas pollution to developing nations

Climate Agreements

Paris Agreement (2015): Requires countries to:

Set targets for reducing greenhouse gas emissions 🌱



Report on progress

Current Limitation: No requirements for emissions from exported fossil fuels

Emissions Impact

Countries Involved:

United States: Major fossil fuel exporter

Norway, Australia, Canada: Also significant exporters

Key Data:

U.S. fossil fuel exports resulted in over 2 billion tonnes of CO2 emissions in 2022, equating to a third of U.S. domestic emissions

Drilling Boom: U.S. becomes top oil and gas producer

Global Market Dynamics



Demand Shift:

European nations reducing reliance on Russia

China as a top buyer of U.S. crude and coal

North Africa as a growing market for U.S. coal

Recent Export Figures:

U.S. coal exports increased by nearly 7% in early 2024

Political Commentary

Double Standards: Accusations against Western nations for lecturing others on fossil fuel use while exporting heavily

Statements:

Norway emphasizes each country's responsibility for its emissions Azerbaijan's president criticizes Western hypocrisy

Future Directions

Agenda for Future Summits:

Push for accountability in fossil fuel emissions

Discussion on how to incorporate these issues into future climate agreements

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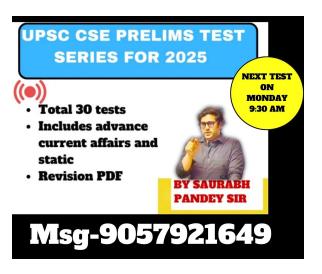
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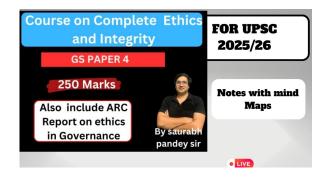
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- 6 month validity 70 Answers evalution + 2 full length Tests + 2
 Essay
- 1 year validity 200 + Answers evolution + five 1 to 1 session with sir + 10 full length tests + 5 essays

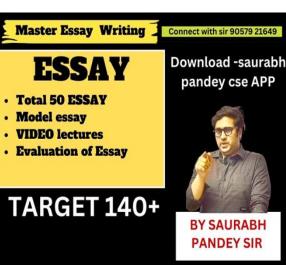
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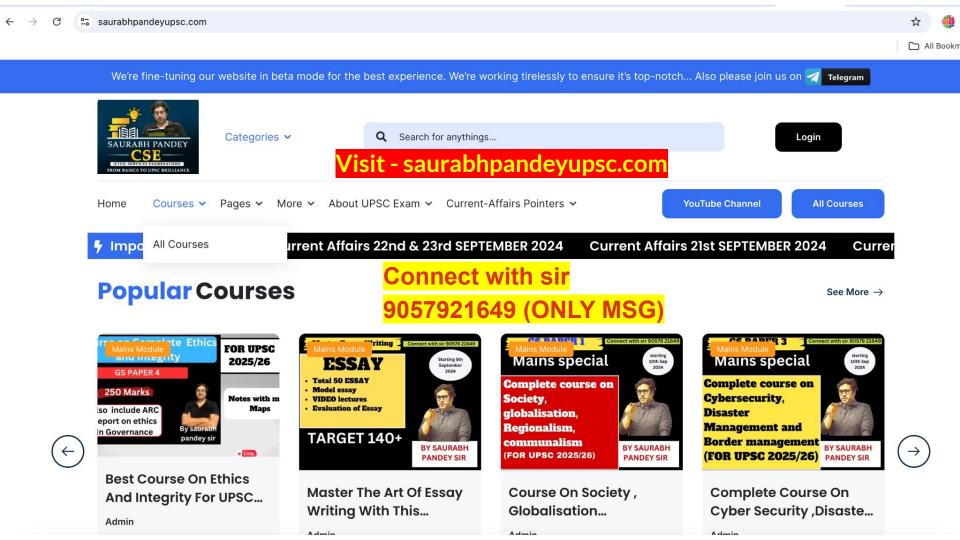












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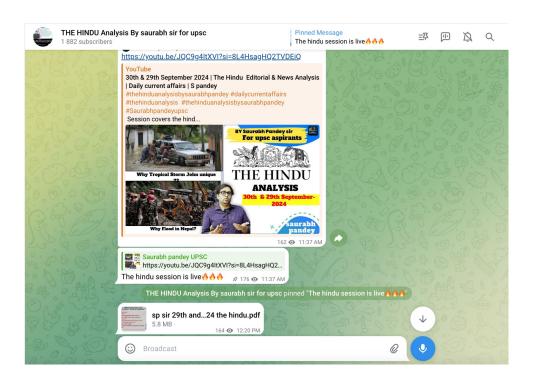
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