## **Topics - MINDS MAPS included (Daily current affairs 5th December 2024**

SAURABH PANDEY
CSE
PROMERON TO UPS RELIANCE

- Why Earthquake in Telangana ??
- Google Safety Engineering Centre in Hyderabad
- Ashtamudi Lake: A Biodiverse Haven in Kerala
- PROBA -3 Mission
- Frog Species Overview
- India Nigeria
- MAINS



By saurabh Pandey



## **Target Mains -2025/26 -**

Q Explain the factor responsible for earthquake in Telangana.

(JOIN AAKLAN PLUS TO GET ANSWERS EVALUATED )Download saurabh pandey cse app

Connect with sir 9057921649

send your answer - Saurabh pandey upsc telegram channel

## COMPLETE CRASH COURSE ON UPSC CSE PRELIMS 2025 (SUCCESS Batch)

-->Complete coverage of all static subjects.

NCERTs + Mapping + Advance books + PYQS

--> Developing elimination Tricks.

2 yrs coverage of prelims specific

current affairs

By saurabh pandey sir

Download saurabh pandey cse app

Visit - saurabhpandeyupsc.com

For Any Query Message 9057921649

50 per discount offer is active

## EVERYTHING IN ONE COURSE!!

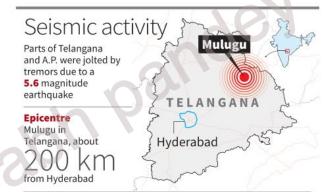
## 5.3 magnitude earthquake jolts Telangana's Mulugu

<u>Tremors felt in central and northern India</u>; biggest earthquake recorded in the past 55 years in the region; no reports of casualties or property damage as seismic energy dispersed at greater depth

## The Hindu Bureau HYDERABAD

5.3 magnitude earthquake on Richter Scale that originated 40 km below ground in the Eturnagaram forest area of Telangana was felt in central and northern India at 7.27 a.m. The National Centre for Seismology (NCS) identified the location as 185km NNE of Nalgonda and 219km ENE of Hyderabad. Many citizens reported feeling the tremors for a few seconds. There were no reports of loss of life or damage to property.

"The epicentre of the earthquake is confined to the Godavari fault system



## Significance

It was the second biggest quake recorded in the last 55 years in the region, according to scientists at the CSIR-National Geophysical Research Institute

eral earthquakes in the past happened and it is therefore, the zone of strain energy release and

## Fault zone

Not a big earthquake, as similar seismological events keep happening in the Godavari Rift Basin, which is a fault zone

layers that caused the lesser degree of shaking than expected due to dissipation of maximum seismic depth," says a preliminary analysis by the NCS.

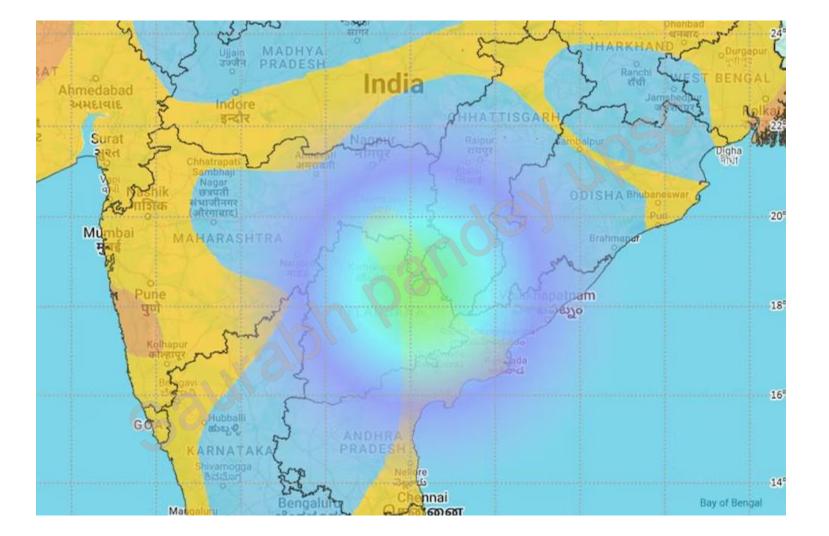
While the NCS identified the location in the forests of Eturnagaram, the US Geological Survey monitoring station reported the quake as originating on the banks of the Godavari River near the same location. The NCS said it received 100 felt-responses on its app and website with most of them originating in Telangana.

CSIR-National Geophysical Research Institute (NGRI) scientists said that the 'moderate' earthquake that occurred at Medaram in Mulugu district is the second biggest one recorded in the last 55 years in the region, but there is "noth-



## **Topic -- Why Earthquake in Telangana ??**

- 5.3 magnitude quake, which was attributed to the Godavari fault zone, aftershocks are possible for a few days, but there is no need to panic. The fault zone is the surface where two blocks of the earth suddenly slip past one another, causing an earthquake.
- The location below the earth's surface where the earthquake starts is called the hypocentre, and the location directly above it on the surface of the earth is called the epicentre.



Godavari basin, which has many geological faults and falls and has experienced minor to moderate earthquakes in the past.

The course of the river today may not be the same as it was a few hundred years ago. River courses change and as they change they leave their mark on the earth structure. Hidden courses of the past, faults can be anywhere, extending to several km on both sides of a river."

He also highlighted that the grinding of the Indian plate into the Eurasian plate does not result in quakes just in the north, along the Himalayas, but the stress of this tectonic movement also builds in the rest of the Indian plate. Sometimes these stresses may manifest as quakes and are called intraplate quakes.

## **Tectonic movement**



- The surface of the earth, both visible and underwater, is comprised of several 'plates' very large chunks of the planet's surface that move extremely slowly. India, as a country sits on one such plate, the Indian Plate, which is moving northwards and pushing into the Eurasian Plate.
- This movement is what created the Himalayan mountain range.
- Though most of the stress along the line of collision between these two plates results in strong to severe earthquakes along this fault line, the stress from the grinding can build up extremely slowly in other parts of the Indian plate along various other geological faults which too come under stress and strain.
- Their 'adjustments' can result in quakes.

Hyderabad to get India's first Google Safety Engineering Centre The Hindu Bureau HYDERABAD

Google has chosen Hyderabad to set up Google Safety Engineering (GSEC). The Telangana govern-

ment has entered into a 'strategically-crucial' and broad ranging partnership with Google on Wednesday with the company asserting that it is committed to establishing India's first Google Safety Engineering Centre (GSEC) in the city, as per an announcement. It would be the first-ofits-kind in the Asia-Pacific region, after Tokyo, and only the fifth in the world, with similar facilities in Dublin, Munich and Malaga.

## "This GSEC is a specialised international cybersecurity hub that will play a vital role in developing advanced security and online safety products for the Indian context. The centre

GSEC's focus

will focus on cutting-edge research, AI-driven security solutions, and creating a collaborative platform for leading experts and researchers in cybersecurity. It also aims to foster skill development, boost employment, and enhance cybersecurity capabilities in

India," as per the press release. The establishment of GSEC in Hyderabad will be transformative for the city and the State, bringing in best-in-class safety engineers, local policy experts, and collaboration with academic institutions and government partners to address the unique challenges of cybersecurity in India, it added.



## **Topic** → **Google Safety Engineering Centre in Hyderabad**



## **Overview**

- Google's Initiative: Hyderabad chosen for the first Google Safety Engineering Centre (GSEC) in India.
- Strategic Partnership: Collaboration with the Telangana government to support GSEC's establishment.
- Regional Significance: First GSEC in the Asia-Pacific, joining centers in Tokyo, Dublin, Munich, and Malaga.

## **Objectives and Impact**

- Focus Areas: Advanced cybersecurity research, Al-driven security solutions, and expert collaboration.
- Economic and Skill Development: Aims to enhance skills, boost employment, and improve cybersecurity in India.
- \* Transformation Potential: Expected to attract top safety engineers and foster academic collaborations in Hyderabad.

## Panel seeks timely action to curb illegal discharge of waste into Ashtamudi Lake



## The Hindu Bureau

KOCHI

The State Level Monitoring Committee (SLMC), Kerala, appointed by the National Green Tribunal, has recommended implementation of projects in a timebound manner to check the illegal discharge of biowaste, including faecal sludge, into Ashtamudi Lake in Kollam district.

A preliminary probe indicates the presence of excessive 'algae bloom', a direct result of discharge of biowaste, points out A.V Ramakrishna Pillai, Chairman of the SLMC, Kerala, in his report on the mass fish kill reported in Ashtamudi Lake on October 27.



Garbage accumulated on the shore of Ashtamudi Lake in Kollam district of Kerala. FILE PHOTO

The report dated November 13, 2024 was submitted before the Principal Bench of the tribunal in New Delhi in an original petition related to the pollution of Ashtamudi and Vembanad Lakes, both

identified as Ramsar sites, or wetlands of international importance.

At present, a sewage treatment plant is being constructed at Kureepuzha by the Kerala Water Authority, the progress of which is sluggish. If it is completed on a war footing, a major portion of the problem relating to septage waste in Kollam district can be solved. The tribunal may issue instructions to the Kerala Water Authority to complete the project in a time-bound manner, says the report.

The SLMC has also urged the tribunal to issue strict instructions to the Kollam district administration, Kollam municipal corporation, and the Kerala Suchitwa mission to ensure that the tanker lorries engaged in collection of septage waste are registered with the local bodies concerned.

## **Topic** → **Ashtamudi Lake:** A Biodiverse Haven in Kerala



## **Overview**

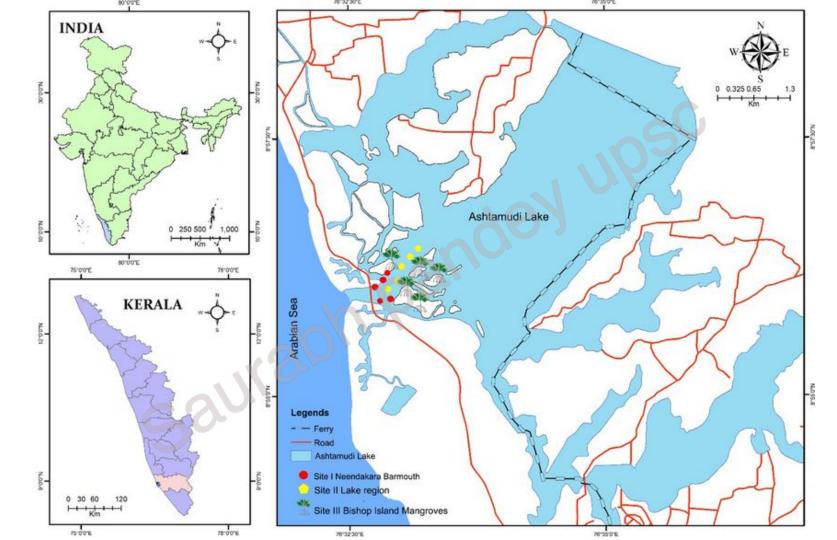
Ashtamudi Lake is a large, palm-shaped lake located in the Kollam district of Kerala, India.

Fig. Known for its rich biodiversity, it hosts various species of fish, birds, and aquatic plants.

A popular destination for houseboat tourism and backwater cruises.

Part of the larger Ashtamudi Wetland, recognized as a Ramsar site for its ecological significance.

Plays a crucial role in the local economy, supporting fishing and agriculture.





## **Economic and Ecological Significance**

**Economic Role:** Supports local fishing and agriculture, vital for the surrounding communities.

**Ecological Importance:** Recognized as a Ramsar site, highlighting its global ecological value.

## **Tourism and Culture**

**Tourism:** Offers houseboat tours and backwater cruises, drawing tourists worldwide.

Cultural Impact: Integral to the lifestyle and economy of local villages

## After anomaly alert, ISRO sets PROBA-3 launch for today

The mission was scheduled to launch at 4.08 p.m. on Wednesday; the 44.5-metre PSLV-C59 rocket will carry 550-kg satellites to their orbit

## Sangeetha Kandavel

CHENNAI

he PSLV-C59/PRO-BA-3 mission, initially scheduled for launch at 4.08 p.m. on Wednesday, has been rescheduled to 4.12 p.m. on Thursday after the detection of an anomaly.

At 3.19 p.m. the Indian Space Research Organisation (ISRO) announced on its official page on X: "Due to an anomaly detected in PROBA-3 spacecraft PSLV-C59/PROBA-3 launch rescheduled to tomorrow December 5, 2024 at 16.12 hours."

Key ISRO officials communicated the same to presspersons gathered at the launch venue.

Even at 3.08 p.m., the ISRO said the countdown had been progressing smoothly. "Countdown is progressing smoothly as PSLV-C59, an initiative led by NSIL and supported by ISRO's expertise, prepares



This mission is the 61st flight of PSLV and the 26th using the PSLV-XL configuration. PTI

to launch ESA's PROBA-3 satellites into a highly elliptical orbit," it said.

Josef Aschbacher, Director-General of the European Space Agency, posted a message on social media saying: "During Proba3's pre-launch preparations at the Satish Dhawan Space Centre in India, an anomaly in the redundant propulsion system of the Coronagraph Spacecraft occurred.

This propulsion system is part of the attitude and orbit control subsystem of the satellite and used to maintain orientation and pointing in space."

He further said: "The anomaly is currently under detailed investigation. The use of a software solution by the mission control team at European Space Agency's ESEC centre at Redu, Belgium is being evaluated to allow a launch on Thursday, December 5."

The PSLV-C59/Proba-3 Mission, the 61st flight of PSLV and the 26th using its XL configuration, is set to carry the ESA's PROBA-3 (Project for Onboard Autonomy) satellites into a highly elliptical orbit from the First Launch Pad (FLP), Satish Dhawan Space Centre (SDSC-SHAR), Sriharikota.

The 44.5-metre rocket will carry the 550-kg PRO-BA-3 satellites to their designated orbit in a mission lasting about 18 minutes.



## **Topic - PROBA -3 Mission**



The Indian Space Research Organisation (ISRO) is set to launch the European Space Agency's (ESA) Proba-3 mission, an ambitious space venture aimed at studying the Sun's corona.

Mission Overview: PROBA-3 is a European Space Agency (ESA) mission designed to demonstrate formation flying technology in space.

Objective: The primary goal is to study the Sun and its impact on the Earth's environment through solar observations.

Satellite Configuration: The mission consists of two satellites that will fly in formation, separated by a distance of approximately 150 meters.

Instruments: PROBA-3 will carry advanced instruments for solar imaging and measurements, enhancing our understanding of solar phenomena.



Significance: This mission aims to improve space weather forecasting and contribute to the safety of satellite operations and communications on Earth.



Technology Demonstration: It will showcase innovative technologies for autonomous formation flying, which could be applied in future space missions

- The Proba-3 mission features two spacecraft, the Coronagraph and Occulter, which will fly in close formation, maintaining just 150 meters of distance between them.
- The Occulter will block the Sun's disk, enabling the Coronagraph to study the Sun's faint corona.
- The Occulter spacecraft weighs around 240 kg, while the Coronagraph weighs about 310 kg.
- The satellites will follow an orbital period of 19.7 hours, reaching an apogee (farthest point) of 60,530 km and a perigee (closest point) of 600 km from Earth.



The Nilphamari narrow-mouthed frog, which is found in the lateritic plateaus of the northern

## Study flags agroforestry threat to frogs

## Rahul Karmakar

Researchers have found that agroforestry practices may be harmful to some species of endemic frogs, while a few are less affected by modified habitats. The study was conducted by researchers from the Mysuru-based Nature Conservation Foundation (KCF-India), and the Bombay Environmental Action Group (BEAG). The action of Computer Section The section of Computer Section Section The section of Computer Section Section The Section Section The Section Section

Environmental action (orou) (BEAU).
The study was conducted by Vijayam Jithin and Rohit Naniwadekar of the NGF.
The BEAG's researchers were Manuli Rane and Aparna Watve. The findings were published in Ecological Applications, a journal of the Ecological Society of

Journal of une recognican society of the systude of the amphibhan diversity and abundance in the low-elevation lateritic pitation of Maharashira hards, paddy fields, and unmodified stretches during the moniscon season between June and September 2022. Four geographically separated platerum — Post biasol, Ilevache supposed to capture the spatial variability, sampled to capture the spatial variability. The research team found amphibian

The research commit rounding promoabundance was the least in orchards compared to the relatively undisturbed photoass. Excluding the CEFF between the CEFF betweening frog Odmerwaya cept ognostically, were less abundant in modified habitats, indicating that agroforestry peractices may be particularly derramental to these vulnerables.

"The conversion of plateaus into agricultural lands is a significant threat to these habitats and the species they support," Jithin, the lead author of the study, said.

"Given the expansion of orchards, we

recommend adapting agroforestry

Amphibian diversity was lowest

in paddy, and abundance was the least in orchards compared to the undisturbed plateaus

practices to be more frog friendly. Retaining natural water bodies and adding water sources in orchards, combined with sensitiation and incentives for landowners, could help mitigate habitat loss; 'he said.

micranes no aniuowitets, coun resp mitigate habitat loss," he said. On the other hand, species such as the Mirenarya salnyadrasis commonly found across South Asia were more prevalent in paddy fields, suggesting shifts in community composition due to habitat

found across South Asia were more prevalent in pudsh pelish, suggesting shifts in community composition due to halbatt in community composition due to halbatt "We cannot say the more generalist species are adapting to modified halbattast since that needs a biology period specading into such habitast; finthin, the learning the such habitast; finthin, the such with the such author, but fire hidden, the such author such that finthing the such such as the suc

read autmor, total The Hindui.

The lateritic plateaus, formed through volcanic activity millions of years ago, are rich in endemic biodiversity but largely unprotected. Traditional conversion of these plateaus into paddy fields has now given way to blasting and transforming the landscape into mango and cashew

orchards.

The study highlights how these conversions reduce critical habitats for frogs, such as rock pools that protect tadpoles and eggs during monsoon dry

spells.

"Low elevation platons are home to endemic and threatened species of plants and animals that rely on clean was and animals that rely on clean was the health of aquatic resources, which are the lifeline of local communities. It is necessary to conserve and restore the successary to conserve and restore the well-being of all file forms, "Water, also the coordinator of the International United for Comerculation of Nature Species Survival Commission", Western Class

The study was funded by the United

Kingdom-based On the Edge Conservation, BEAG, The Habitat Trust, and NCF-India.



## **Topic** → **Frog Species Overview**



- The burrowing frog is scientifically known as Minervarya cepi.
- The Goan Fejervarya is referred to as Minervarya gomantaki.
- Soth species are part of the Minervarya genus.
- These frogs are notable for their burrowing behavior.
- They are native to specific regions, likely including Goa.
- The classification indicates they belong to the family Dicroglossidae.
- Their ecological roles and conservation status may be of interest.

Summary: The text mentions two frog species, the burrowing frog (Minervarya cepi) and the Goan Fejervarya (Minervarya gomantaki), both belonging to the Minervarya genus

## India's strategic focus on West Africa

ast month, on his way to Brazil to participate in the G-20 Summit, Prime Minister Narendra Modi made a strategic halt in Nigeria. During his first two terms, Mr. Modi travelled to 10 African countries, including Uganda, where he delivered a historic speech outlining India's vision of Africa. However, his visit to Nigeria is significant as it marks the first African visit of the Prime Minister in his third term. This visit is also the first by an Indian Prime Minister to Nigeria in 17 years.

The importance accorded to India by Nigeria was evident from the very moment Nigerian President Bola Ahmed Tinubu welcomed Mr. Modi at Abuja airport. Later, the Indian Prime Minister was conferred Nigeria's second-highest national award, the Grand Commander of the Order of the Niger. He became the only second foreign dignitary to receive the distinction since 1969, after Queen Elizabeth II, underlining India's rising global stature and the trust and recognition Mr. Modi has gained for his commitment to the Global South.

## India-Nigeria ties

Nigeria is both the largest economy and the largest economy and the largest democracy in Africa. Nigeria is also a regional hegemon in West Africa and plays an important role at the African Union level. It is regarded as a democratic role model and has, in the past, used its clout to mediate disputes on the African continent. Strengthening India's ties with Nigeria would undoubtedly have effects far beyond the nation's borders.

In his conversation with President Tinubu, Mr. Modi reiterated the high priority India accords to its strategic partnership with Nigeria and expressed interest in boosting ties in areas such as defence, energy, technology, trade, health, and education. With terrorism,



Harsh V Pant

Vice President for Studies at Observer Research Foundation, New Delhi



<u>Samir</u> Bhattacharva

Associate Fellow, Africa, Observer Research Foundation, New Delhi

Despite growing

Chinese interest

in financing and

infrastructure.

India remains

one of Nigeria's

building

important

partners

separatism, piracy, and drug
trafficking as major challenges for
Nigeria, Mr. Modi underscored the
continuing salience of strong
cooperation on security issues.
This encompasses the purchase of
Indian weapons and cooperation
in the counterterrorism
operations against the Islamist
groups, particularly Boko Haram.

Mr. Modi's trip is also a follow-up to an Indian defence industry delegation's visit to Lagos earlier this year. Mr. Tinubu had expressed interest in buying arms from India during that visit. India is emerging as a key defence supplier to Africa, with sales to Egypt, Algeria, Morocco, Tanzania, and Mozambique.

In over six decades of close partnership between India on Nigeria, India has also emerged as a development partner of Nigeria on two fronts – offering developmental assistance through concessional loans (\$100 million) and capacity-building training programmes – shaping this partnership in a distinctive 'India Way'.

Nigeria's China connection Nigeria currently has over 200 Chinese companies. It is China's largest export market and its second-largest trading partner in Africa. On the other hand, China is Nigeria's third-largest export market. China has funded over \$47 billion for 22 large-size infrastructural projects across the country. As of March 31, 2020, Chinese loans to Nigeria totalled \$3.121 billion, or 11.28% of Nigeria's \$27.67 billion in external debt. Earlier, Nigeria had undertaken several significant infrastructure projects using Chinese money, such as the National Public Security Communications System project and the Abuja Light Rail project, and planned terminal expansions at four major airports.

expansions at rour major air ports. In 2023, China funded the Lekki Deep Sea Port. The port, one of the largest in West Africa, will relieve cargo congestion, which costs billions of dollars in annual revenue and is expected to generate over 170,000 new jobs. It is anticipated that the port will boost Nigeria's struggling economy.

The Chinese technology giant Huawei has a significant presence in Nigeria. Since 2019, Huawei has trained 2,000 Nigerian youths and 1.000 federal civil servants across Ministries, departments, and agencies, and it plans to continue training government employees in cybersecurity strategy. Huawei has deployed over 27,500 mobile phone towers and up to 10,000 kilometres of fibre optic cable in Nigeria. It has also signed a contract with the Federal government to install an electronic surveillance system at the country's land borders.

China is also active in Nigeria's

mining sector. Last February, Kaduna selected China's Ming Xin Mineral Separation Nig Ltd. to build the nation's first lithium-processing plant. It aims to produce batteries for electric vehicles. Yet, five months ago, the Nigerian government rejected Tesla's proposal to buy raw lithium from the country. Meanwhile, China Sinoma International Engineering and Nigeria's Dangote Industries Limited also signed a contract to construct a cement plant with six million tonnes per vear in Itori, Ogun state. Despite growing Chinese

Despite growing Chinese interest in financing and building infrastructure, India remains one of Nigeria's key partners. Trade between India and Nigeria has declined from \$14.95 billion in 2021-22 to \$7.89 billion in 2023-24, primarily due to India's increasing oil imports from Russia. India and Nigeria, however, continue cooperating on multiple issues. As leaders of the Global South, an enhanced bilateral relationship between India and Nigeria should also auger well for the larger Global South.

Mr. Modi's visit to Nigeria has brought the country into the spotlight, but much more sustained effort will be required to convert the goodwill into concrete deliverable outcomes.





## **Topic** → **India** - **Nigeria**



Modi's Visit to Nigeria: Prime Minister Narendra Modi made a strategic stop in

Nigeria on his way to the G-20 Summit, marking his first African visit in his third term and the first by an Indian PM to Nigeria in 17 years.

National Honor: Modi was awarded Nigeria's second-highest national honor, the Grand Commander of the Order of the Niger, becoming only the second foreign dignitary to receive this distinction since 1969.

India-Nigeria Relations: Nigeria is the largest economy and democracy in Africa, playing a significant role in the African Union and regional stability, making the strengthening of ties with India crucial.

Security Cooperation: Modi emphasized the importance of cooperation on security issues, including counterterrorism efforts against groups like Boko Haram and potential arms purchases from India.

Strategic Partnership Areas: Discussions with President Tinubu focused on enhancing collaboration in defense, energy, technology, trade, health, and education.

**Developmental Assistance:** India has provided Nigeria with \$100 million in concessional loans and capacity-building training programs, reinforcing its role as a development partner.

**Emerging Defense Supplier:** India is becoming a key defense supplier to Africa, with previous sales to countries like Egypt, Algeria, and Morocco, indicating a growing defense relationship

## China -Nigeria

Chinese Presence: Nigeria hosts over 200 Chinese companies, making it China's largest export market and second-largest trading partner in Africa.



**Investment in Infrastructure:** China has invested over \$47 billion in 22 major infrastructure projects in Nigeria, including the Lekki Deep Sea Port, which is expected to create over 170,000 jobs.

**Debt Relations:** As of March 31, 2020, Chinese loans to Nigeria amounted to \$3.121 billion, representing 11.28% of Nigeria's total external debt of \$27.67 billion.

**Technology and Training:** Huawei has trained 2,000 Nigerian youths and 1,000 civil servants in cybersecurity and has deployed extensive telecommunications infrastructure in Nigeria.

Mining Sector Involvement: China is involved in Nigeria's mining sector, with plans for the first lithium-processing plant aimed at battery production for electric vehicles.

- India-Nigeria Relations: Despite China's growing influence, India remains a kepartner, although trade has declined significantly from \$14.95 billion in 2021-22 to \$7.89 billion in 2023-24.
- ➡ Bilateral Cooperation: Enhanced cooperation between India and Nigeria is essential for both nations as leaders of the Global South, requiring sustained efforts to achieve tangible outcomes.

**Summary**: Nigeria's relationship with China is marked by significant investments in infrastructure and technology, while India remains a crucial partner despite declining trade

## COMPLETE CRASH COURSE ON UPSC CSE PRELIMS 2025 (SUCCESS Batch)

-->Complete coverage of all static subjects.

NCERTs + Mapping + Advance books + PYQS

--> Developing elimination Tricks.

2 yrs coverage of prelims specific

current affairs

By saurabh pandey sir

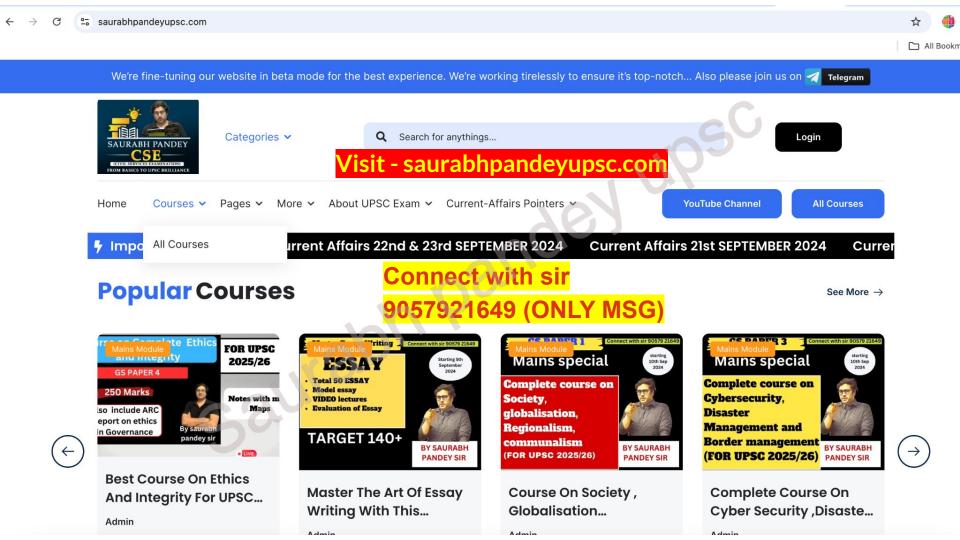
Download saurabh pandey cse app

Visit - saurabhpandeyupsc.com

For Any Query Message 9057921649

50 per discount offer is active

## EVERYTHING IN ONE COURSE!!









## Saurabh Pandey CSE



This app is available for your device











App support Y



## PDF Download → <a href="https://t.me/gesreporter">https://t.me/gesreporter</a>





## **Target Mains -2025/26 -**

Q Explain the factor responsible for earthquake in Telangana.

(JOIN AAKLAN PLUS TO GET ANSWERS EVALUATED )Download saurabh pandey cse app

Connect with sir 9057921649

send your answer - Saurabh pandey upsc telegram channel



