

WHAT ARE X-RAY BURSTS?

Recently, India's first multi-wavelength space-based observatory AstroSat has detected bright sub-second X-ray bursts from a new and unique neutron star with ultrahigh magnetic field (magnetar).



About X-ray bursts:

- It occurs in low-mass X-ray binary systems where a **neutron star** and **low-mass main sequence star** are in orbit around one another.
- Due to their close proximity and the extreme gravity of the neutron star, the companion star overflows its roche-lobe and **hydrogen is drawn** into an accretion disk **around the neutron star**.
- This hydrogen is eventually deposited on the surface of the neutron star and immediately is converted into helium due to the extreme temperatures and pressures that exist there.
- A thin surface layer of helium is built up, and once a critical mass of helium is reached, it ignites explosively, heating the entire surface of the neutron star to several tens of millions of degrees releasing a sudden burst of X-rays.
- Once the outburst is over, the binary system temporarily returns to its quiescent state while the neutron star begins to re-accumulate the helium surface layer.
- The process repeats resulting in recurrent X-ray bursts.
- It generally occurs at regular intervals separated by several hours or days.

What is a Magnetar?

- It is an **exotic type of neutron star**, its defining feature that it has an ultra-powerful magnetic field.
- The field is about 1,000 times stronger than a normal neutron star and about a trillion times stronger than the Earth's.
- Apart from ultra-powerful magnetic fields, magnetars also **release vast amounts of energy** in the form of flares, X-rays, and gamma-ray bursts.

- They are therefore associated with extreme events in the universe, making them perhaps the most bizarre objects in the cosmos next to black holes.
- The magnetic field of a magnetar may be caused by a neutron star's interior – thought to be made up of neutrons, quarks and exotic states of matter such as Bose-Einstein Condensates – becoming a superconducting fluid.

MISSION KARMAYOGI

Recently, on the occasion of Good Governance Day the Union Minister of Personnel, Public Grievances & Pensions launched the Extended Version of Mission Karmayogi, at a function in New Delhi.



About the Mission Karmayogi:

- Mission Karmayogi - **National Programme for Civil Services Capacity Building** (NPCSCB) aims to **prepare Civil Servants** for the future by making them more creative, constructive & innovative through transparency and technology.
- This unique programme will help to lay the foundation for civil servants in the country.
- There will be more focus on '**on-site learning**' in complementing "off-site learning".
- On 2nd September 2020, Government approved the National Programme for Civil Services Capacity Building (NPCSCB) with **six key pillars** including Policy Framework, Institutional Framework, Competency Framework, Digital Learning Framework (iGOT-Karmayogi), the electronic Human Resource Management System (e-HRMS) and the Monitoring and Evaluation Framework.
- The Programme will **cover all civil servants** (including contractual employees) across different ministries, departments, organisations and agencies of the Union Government.

Three new features launched on the **iGOT Karmayogi platform** are:

- **My iGOT:** It delivers **targeted training courses** on home page of individual officer that directly address the unique capacity building needs of the officer as identified in the Capacity-Building Plan for their Ministries/Departments.

- **Blended Programs:** This programme will facilitate **equitable access to training methodologies** across all levels to meet dynamic training needs of the officials.
 - Blended Programs **integrate traditional offline** (in person) classroom courses with online learning components.
 - It enables officers and faculty to leverage the flexibility and convenience of online courses while retaining the invaluable benefits of face-to-face classroom interactions.
 - **Curated Programs:** These are designed to cater to diverse learning needs of the Ministries/Departments and Training Institutions.
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[MEDTECH MITRA PORTAL](#)

Recently, the Union Minister of Health and Family Welfare launched the MedTech Mitra portal.



About the MedTech Mitra portal:

- It is an **online portal** that aims to assist medtech innovators in clinical evaluation, regulatory facilitation, and uptake of new products.
- The portal will be coordinated collaboratively by the **Indian Council of Medical Research (ICMR)** and the **Central Drugs Standard Control Organisation (CDSCO)**, under the guidance of NITI Aayog's **Atal Innovation Mission**.
- The MedTech Mitra platform, along with the recent medical devices policy and the production-linked incentive scheme, will together provide a boost to the medical devices sector and encourage domestic manufacturing of these devices.

Significance:

- The new initiatives would **facilitate indigenous development** of affordable, quality MedTech devices and diagnostics, leading to a considerable reduction in the import dependence of this sector.
- It will **ensure ease of innovation** and doing R&D for emerging start-ups.

- It would provide **end-to-end guidance to startups**, making their journey from idea to product smooth. The platform will also help them bridge gaps and help in animal as well as clinical trials.
 - It would also **foster partnerships** between engineers, scientists and clinicians, which was lacking in the sector.
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RAILWAY OFFICERS TO BE TRAINED IN DISASTER MANAGEMENT

Why in news?

- The Ministry of Railways has made training in disaster management **mandatory** for railway officers.
- The National Academy of Indian Railways (NAIR), Vadodara, and the Indian Railway Institute of Disaster Management (IRIDM), Bengaluru, would work together in imparting the comprehensive training programme.

National Academy of Indian Railways (NAIR)

- NAIR is a training institute for Indian Railways (IR) officers.
- It was established in 1930 as the Railway Staff College and moved to its current location in Vadodara, Gujarat in 1952.
- Recently, the Railway Board has ordered NAIR to hand over all its assets, including buildings and other infrastructural facilities, to the **Gati Shakti Vishwavidyalaya (GSV)**.
 - GSV is a central university in Vadodara, Gujarat, India.
 - It was established in 2018 as the National Rail and Transportation Institute (NRTI) and upgraded to a central university in 2022.
 - The university is sponsored by the Ministry of Railways and is mandated to work across railways, shipping, ports, highways, roads, waterways, and aviation.

Indian Railways Institute of Disaster Management (IRIDM)

- IRIDM is a national institute in Bengaluru that offers disaster management courses and training.

- IRIDM envisioned in High Level Committee (HLC) on Disaster Management in Indian Railways, was Commissioned in the year 2019.
- In the year 2021, it was brought under Indian Railways Institute of Mechanical & Electrical Engineers (IRIMEE), Jamalpur, a century old Centralized Training Institute.

Commissioner of Railway Safety (CRS)

- **About**
 - CRS is a statutory body. It is headed by the Chief Commissioner of Railway Safety.
 - It deals with matters related to safety of rail travel and operations, as laid down in the Railways Act, 1989.
 - Investigating serious train accidents is one of the key responsibilities of the CRS. The commission also makes recommendations to the government.
- **Headquarters:** Lucknow, Uttar Pradesh.
- **Administrative control**
 - The CRS does not report to the Ministry of Railways of the Railway Board.
 - It is, in fact, under the **administrative control of the Ministry of Civil Aviation (MoCA)**.
 - The reason is to keep the CRS insulated from the influence of the country's railway establishment and prevent conflicts of interest.

ROHINGYA REFUGEES: UNHCR THANKS INDIA FOR TAKING CARE OF 142 ROHINGYAS INTERCEPTED IN ANDAMAN

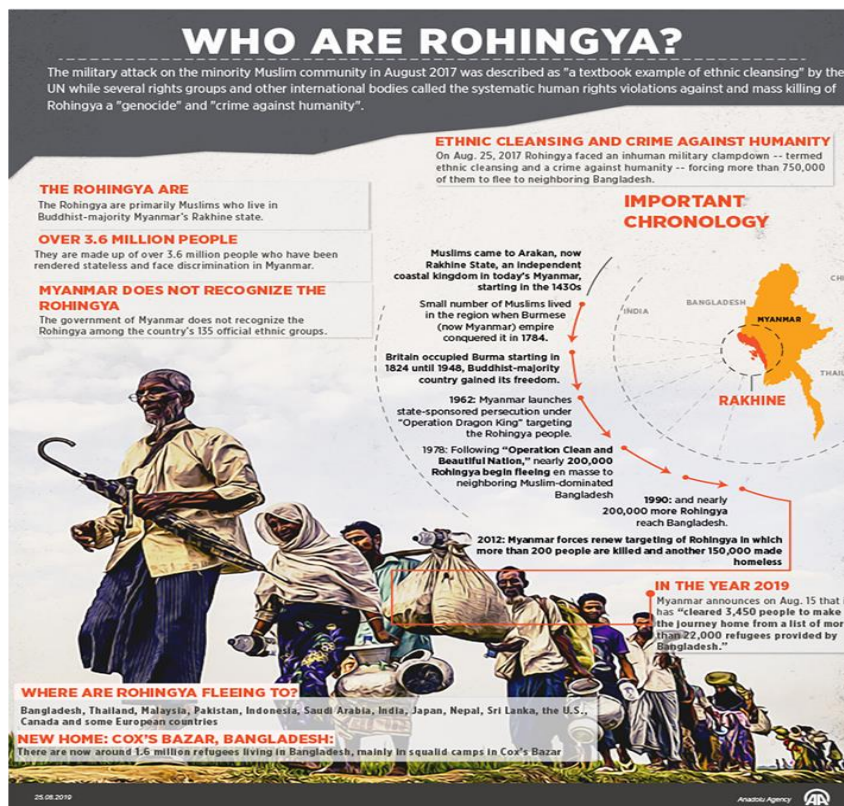
Why in News?

- The UNHCR expressed gratitude to Indian authorities at Andaman and Nicobar Islands for taking care of 142 Rohingya refugees, whose boat was intercepted by coastal security agencies near Shaheed Dweep a day ago.

About the United Nations High Commissioner for Refugees (UNHCR):

- The **UNHCR - the UN Refugee Agency**, is a global organisation dedicated to saving lives, protecting rights and building a better future for people forced to flee their homes because of conflict and persecution.
- Headquartered in **Geneva (Switzerland)**, UNHCR assists in the voluntary repatriation of refugees, their local integration or resettlement to a third country.
- **UNHCR was created in 1950** to address the refugee crisis that resulted from World War II.
- The **1951 Refugee Convention** established the scope and legal framework of the agency's work, which initially focused on Europeans uprooted by the war.

Rohingya Refugee Issue:



WHO ARE ROHINGYA?

The military attack on the minority Muslim community in August 2017 was described as "a textbook example of ethnic cleansing" by the UN while several rights groups and other international bodies called the systematic human rights violations against and mass killing of Rohingya a "genocide" and "crime against humanity".

THE ROHINGYA ARE
The Rohingyas are primarily Muslims who live in Buddhist-majority Myanmar's Rakhine state.

OVER 3.6 MILLION PEOPLE
They are made up of over 3.6 million people who have been rendered stateless and face discrimination in Myanmar.

MYANMAR DOES NOT RECOGNIZE THE ROHINGYA
The government of Myanmar does not recognize the Rohingyas among the country's 135 official ethnic groups.

ETHNIC CLEANSING AND CRIME AGAINST HUMANITY
On Aug. 25, 2017 Rohingya faced an inhuman military clampdown -- termed ethnic cleansing and a crime against humanity -- forcing more than 750,000 of them to flee to neighboring Bangladesh.

IMPORTANT CHRONOLOGY

- Muslims came to Arakan, now Rakhine State, an independent coastal kingdom in today's Myanmar, starting in the 1430s
- Small number of Muslims lived in the region when Burmese (now Myanmar) empire conquered it in 1784.
- Britain occupied Burma starting in 1824 until 1948, Buddhist-majority country gained its freedom.
- 1962: Myanmar launches state-sponsored persecution under "Operation Dragon King" targeting the Rohingya people.
- 1978: Following "Operation Clean and Beautiful Nation," nearly 200,000 Rohingyas begin fleeing en masse to neighboring Muslim-dominated Bangladesh
- 1990: and nearly 200,000 more Rohingyas reach Bangladesh.
- 2012: Myanmar forces renew targeting of Rohingyas in which more than 200 people are killed and another 150,000 made homeless
- IN THE YEAR 2019**
Myanmar announces on Aug. 15 that it has "cleared 3,450 people to make the journey home from a list of more than 22,000 refugees provided by Bangladesh."

WHERE ARE ROHINGYA FLEEING TO?
Bangladesh, Thailand, Malaysia, Pakistan, Indonesia, Saudi Arabia, India, Japan, Nepal, Sri Lanka, the U.S., Canada and some European countries

NEW HOME: COX'S BAZAR, BANGLADESH:
There are now around 1.6 million refugees living in Bangladesh, mainly in squalid camps in Cox's Bazar

25.08.2019 Anasitu Agency

- Rohingyas as refugees in India:
 - India hosts the biggest number of refugees in the entire South Asia.
 - According to the Indian government's estimate, over 40,000 of about 1,68,000 Rohingyas who had fled Myanmar since 2012, have entered India illegally.
 - In legal terms,

a person living in India can be either a citizen or a foreigner defined under the **Foreigners Act, 1946.**

- India has also not been a signatory of the 1951 UN Convention or the 1967 Protocol - both relating to the Status of Refugees and included in the UNHCR statute.
- **Issues with Rohingyas in India:**
 - According to the Indian government, many Rohingyas **have acquired documents meant for Indian citizens** (like Aadhaar, PAN and Voter-ID).
 - This raises the **concern of naturalisation of illegal migrants** by fraudulent means.
 - Given the socio-economic complexities of Indian society and politics, identifying and monitoring Rohingyas will be difficult.
 - Since intelligence agencies have warned that terrorist organisations are looking to exploit the vulnerability of Rohingyas this could **jeopardise India's national security**.
 - Till now the successive governments have **dealt with refugee questions on a case-by-case basis**.
 - In 2015, a Private Member's Bill titled the Asylum Bill was introduced in the Lok Sabha.
 - The Bill seeks to provide for the establishment of a legal framework to deal with the refugee problem.
 - But the Bill has not yet been taken up for consideration.

KEY FACTS ABOUT SOUTH CHINA SEA

China has warned that remnants of a rocket would hit an area in the South China Sea, following the sixth deployment of its most powerful launch vehicle recently.



About South China Sea:

- It is an **arm of the western Pacific Ocean that borders the Southeast Asian mainland**.
- **Boundaries:**

- It is bordered by **China, Taiwan, the Philippines, Malaysia, Indonesia, Brunei, and Vietnam.**
- The **southern boundary** of the South China Sea is a **rise in the seabed between Sumatra and Borneo**, and the **northern boundary** stretches from the northernmost point of **Taiwan** to the coast of **Fujian province, China, in the Taiwan Strait.**
- It is **connected by the Taiwan Strait with the East China Sea** and by the **Luzon Strait with the Philippine Sea** (both marginal seas of the Pacific Ocean).
- The **South China Sea and the East China Sea together form the China Sea.**
- The two **major archipelagos** are known as the **Paracel Islands**, controlled by China, and the **Spratly Islands.**
- **Climate:** The weather in the sea is **tropical** and largely **controlled by monsoons.**
- It is the **second most used sea lane in the world.** It is a significant trade route for crude oil from the Persian Gulf and Africa through the Strait of Malacca to Singapore, Thailand, Hong Kong, Taiwan, South Korea, and Japan.
- **Major Ports:** **Hong Kong, Singapore, and Kaohsiung** in southern Taiwan.

[SIMILIPAL TIGER RESERVE \(STR\)](#)



Forest department personnel in Odisha recently arrested four poachers and two timber smugglers from Similipal Tiger Reserve (STR) in Mayurbhanj district during patrolling.

About the Similipal Tiger Reserve (STR):

- **Location:** STR is located within the Mayurbhanj District, in the northernmost part of **Odisha.**
- It was declared a 'Tiger Reserve' in 1956 and included under the national conservation programme 'Project Tiger' in 1973.
- It is **surrounded by high plateaus and hills, the highest peak** being the **twin peaks of Khairiburu and Meghashini** (1515m above mean sea level).

- The STR, along with a 'transitional area' of 2250 sq. km, was included as a **part of the World Network of Biosphere Reserves** by UNESCO in 2009.
 - **Terrain:**
 - The terrain is mostly **undulating and hilly**, interspersed with open grasslands and wooded areas.
 - The inclined plateau has risen abruptly from the low coastal plains. The **steep side faces the Bay of Bengal** and runs northwards to finally merge with Chhota Nagpur.
 - The **water level is high**, and the tract is woven with perennial water sources converging into rivers like Budhabalanga, Salandi, and many tributaries of **the Baitarani River flowing from the Reserve**.
 - **Vegetation:** It is a mix of different forest types and habitats, with **Northern tropical moist deciduous** dominating some semi-evergreen patches.
 - It is the **only landscape in the world that is home to melanistic tigers**.
 - The region around STR is home to a variety of **tribes, including Kolha, Santhala, Bhumija, Bhatudi, Gondas, Khadia, Mankadia, and Sahara**.
 - **Flora:**
 - An astounding 1078 species of plants, including 94 species of orchids, are found here.
 - **Sal is the dominant tree species** here.
 - **Fauna:** **Leopard, Gaur, Elephant, Langur, Barking and Spotted Deer, Sloth Bear** Mongoose, Flying Squirrel, Porcupine, Turtle, Monitor Lizard, Python, Sambar, Pangolin etc.
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