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— **HE 1005-1439** —

Indian Scientists

**HE 1005-1439**

have discovered a **new star**

Scientists at the Indian Institute of Astrophysics (IIA) in Bengaluru have discovered a new star named HE 1005-1439.



## HE 1005-1439

- This star is classified as a Carbon Enhanced Metal-Poor (CEMP) star.
- The scientists reported that this star shows signs of forming through a combination of 2 different neutron capture processes, the slow (s) and the intermediate (i).
- This star is indicated to have formed through a combination of two different types of processes occurring in different astrophysical environments
- It is also believed that during the asymptotic giant branch (AGB) phase, slow (s-) processes occur in low-mass stars and rapid (r-) processes occur in supernovae and neutron star mergers.



# HE 1005-1439

- There are indications that two different processes are involved in its formation. Understanding the relative contributions of these processes to the fundamental composition of stars is important for understanding the chemical evolution of galaxies and the origin of elements in the universe.





## HE 1005-1439

- However, elemental abundances cannot be explained solely on the basis of theoretical s-, r- or I-process model predictions.
- To gather more information about the star, the researchers performed a parametric-model-based analysis of the abundance of heavy elements to understand the origin of the observed.





## HE 1005-1439

- The High Dispersion Spectrograph (HDS) attached to the SUBARU telescope (Japan) was used to analyze the star's chemical composition, followed by high-resolution spectroscopic data.
- The iron material found in the star is thousands of times less than that of the Sun and is loaded with neutron-capturing elements



## HE 1005-1439

- The iron material found in the star is thousands of times less than that of the Sun and is loaded with neutron-capturing elements
- We have observed variations in our radial velocity estimates over many epochs that indicate the presence of a binary companion.
- The resulting low-mass, low-metallicity asymptotic Gantt branch stars have a pure s- or i-process surface abundance pattern. Also, it may be helpful to explain CEMP-s to CEMP-r/s transition.





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## in Bird Survey **Red-Headed Vulture**

- A recent bird survey in Uttarakhand's Corbett Tiger Reserve counted red-headed vultures
- 'Red Headed Vulture' is one of the 9 species of vulture found in India.





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- It is also called the 'Asiatic king vulture' or the 'Pondicherry vulture'.
- It used to be widespread in India, but after the use of the drug diclofenac, its number decreased significantly.



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- Its IUCN status:- '**Critically Endangered**'.
- This vulture is found in India, Nepal, Bangladesh and Bhutan.



# SAMUDRA

## Mobile App

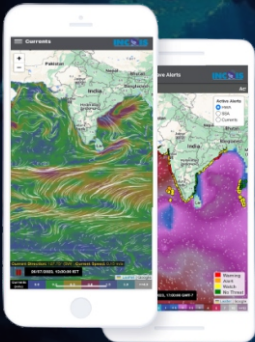


Indian National Center for Ocean Information Services (INCOIS), a division of the Ministry of Earth Sciences, has introduced a new mobile application named 'Samudra'. Smart access to marine users for ocean data resources and advice. The app provides comprehensive ocean-related information, which benefits the mariners and fishing community.



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- It provides real-time updates and critical alerts on marine disasters like tsunami, storm surges, high waves and surge waves.
- It includes interactive map charts and animations to explain complex marine phenomena.
- The app is particularly valuable to fishermen as it provides Potential Fishing Zone (PFZ) advisories, guiding them to potential fish aggregation locations.



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- The app also serves various public and private entities such as the Indian Coast Guard, Navy and shipping industries.
- The app is aligned with INCOIS's mission of serving the nation with marine data and advisory services, contributing towards sustainable maritime activities and Blue Economy.



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## Vishwakarma Scheme

- After the announcement of PM Vishwakarma Yojana from the ramparts of the Red Fort, the Union Cabinet has also given its green signal to it.
- This scheme is being launched on September 17 on the occasion of Vishwakarma Jayanti.
- At present, Rs 13 thousand crore will be spent on this scheme. About Vishwakarma Yojana-



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## About Vishwakarma Yojana-

- This scheme has been launched to promote the livelihood of traditional workers and artisans belonging to the OBC community.
- An allocation of Rs 13,000 crore to Rs 15,000 crore will be made initially in this scheme. Under this, the development of goldsmiths, blacksmiths, washermen, hair-dressers and workers will be ensured.



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## The objective of PM Vishwakarma Yojana-

- PM Vishwakarma Yojana has been launched to improve the quality, scale and reach of products and services of artisans and craftsmen.
- This will result in the economic empowerment of workers, especially people belonging to SC, ST, OBC, women, transgender and other weaker sections of the society.