Prelim Bits 02-06-2018

Rare and isolated neutron star

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- The NASA scientists have discovered a special kind of neutron star for the first time outside of the Milky Way galaxy.
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- Neutron stars are the ultra dense cores of massive stars that collapse and undergo a supernova explosion.
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- The newly identified neutron star was discovered by using data from NASA's Chandra X-ray Observatory and the European Southern Observatory's Very Large Telescope (VLT) in Chile.
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- It is a rare variety that has both a low magnetic field and no stellar companion.
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- Oxygen-rich supernova remnants of neutron stars E0102 are important for understanding how massive stars fuse lighter elements into heavier ones before they explode.
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The IITKGP-Oxford collaboration

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- Researchers from IIT Kharagpur and Oxford University have entered into a collaboration to develop a better understanding of the filtration process of water and cope with global water challenge.
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- The collaboration is addressing arsenic contamination of water for drinking and other types of human use, the research has been extended to filtration of other water pollutants as well.
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- The Ganges-Brahmaputra Delta is a global hotspot for arsenic groundwater contamination.

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- The chemical leaching within fertile farmland soils is a result of overuse of pesticides and fertilizers and it is also widespread in the country.
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- The collaborative developed technology has already been accepted by the Department of Science & Technology, Union Government, PHE department government of West Bengal and the West Bengal Arsenic Task force.
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- The collaborative project has been funded by the Global Challenge Research Fund (GCRF-UK), University of Oxford.
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Electric Vehicles- IEA

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- The International Energy Agency (IEA) said that the number of electric vehicles on roads worldwide rose to a record high of 3.1 million in 2017.
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- The number of electric cars, including battery-electric, plug-in hybrid electric and fuel cell electric passenger light-duty vehicles, increased by 57 per cent compared with 2016.
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- China accounted for 40 per cent of the global total last year.
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- By 2030, the IEA estimates there will be 125 million EVs on the road, based on existing and announced policies.
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- The shift to EVs will increase demand for some materials, especially cobalt and lithium used in lithium-ion batteries.
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- In 2017, estimated global electricity demand from all EVs was 54 terrawatt hours, equivalent to slightly more than the power demand of Greece.
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Directorate of Revenue Intelligence (DRI)

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- The officers of Directorate of Revenue Intelligence (DRI) have affected a seizure of 32 kgs of foreign origin gold valued at Rs 10.32 Crore, smuggled from China into India through the Indo-China Border in the State of Sikkim.

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- The Directorate of Revenue Intelligence is the apex anti-smuggling agency of India.
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- It is working under the Central Board of Indirect Taxes & Customs, Ministry of Finance, Government of India.
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- It is tasked with detecting and curbing smuggling of contraband, including drug trafficking and illicit international trade in wildlife and environmentally sensitive items, as well as combating commercial frauds related to international trade and evasion of Customs duty.
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- DRI was previously 'C.R.I.B.' (Central Revenue Intelligence Bureau) which was made in 1953.
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Resource Efficiency and Circular Economy

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- A thematic session on “Sustainable lifestyle towards Enhancing Resource Efficiency and Circular Economy” was hosted at the ongoing World Environment Day celebrations.
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- The session was organised jointly by the Ministry of Environment, Forest and Climate Change (MoEF&CC) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).
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- A circular economy is an alternative to a traditional linear economy (make, use, dispose).
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- In circular economy we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.
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- Resource efficiency means using the Earth's limited resources in a sustainable manner while minimising impacts on the environment.
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- It allows us to create more with less and to deliver greater value with less input
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Source: PIB, The Hindu

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