

Daily Current Affairs

27 October 2023

India's First Home Produced Reference Fuel

- In a major milestone for the nation, Petroleum and Natural Gas Minister Hardeep Singh Puri launched **India's first home-produced Reference Fuel** in New Delhi.
- Reference Fuel is used for developing engines and assessing its performance. Earlier, India used to exclusively import it from other nations.
- Its introduction is an important step towards **atmanirbharta in the fuel** and energy sector.
- This puts India into an exclusive **club of reference fuel producers** and is in line with international benchmarks.
- He exclaimed that this achievement **not only reduces India's dependence on imports** but also catapults India's energy industry to select global players armed with exclusive competencies.
- The Minister said this is part of PM Modi's vision of transforming India into an **'energy-independent' nation by 2047**.
- The Minister also mentioned about the Ministry's efforts in the direction of clean energy especially the Bio-fuels section, transition to BS-VI fuels, and introduction of EV charging stations, Sustainable Aviation Fuel, Ethanol blending, and Hydrogen fuels. He also noted moving the ambitious target of achieving **20 percent ethanol blending from 2030 to 2025** and the sale of E20 blended fuel at over 5,000 petrol retail outlets.



Indian Mobile Congress

- Prime Minister Narendra Modi will inaugurate the **7th Edition of the Indian Mobile Congress 2023** at Bharat Mandapam in New Delhi.
- During the programme, he will **award 100 5G Use Case Labs** to educational institutions across the country. These labs are being developed under the 100 5G labs initiative.
- The **100 5G labs initiative**, is an endeavour to realize the opportunities associated with 5G technology by encouraging the development of 5G applications that cater, both to India's unique needs as well as the global demands.
- It will foster innovation across various **socioeconomic sectors** like education, agriculture, health, power, and transportation.
- The initiative is also a pivotal step for building a 6G-ready academic and start-up ecosystem in the country.



Kerala Govt To Set Graphene Production Facility

- Kerala CM Pinarayi Vijayan announced the **establishment of a graphene production facility** that will operate on a public-private partnership model, with an estimated investment of ₹237 crore.
- The Kerala government has unveiled an ambitious initiative to establish a cutting-edge graphene production center, signifying a remarkable stride in material technology. Graphene, commonly hailed as a "miracle material" for its

exceptional electrical and electronic attributes, is poised to become a pivotal element in Kerala's landscape of innovation.



- In a recent cabinet meeting, Chief Minister Pinarayi Vijayan made the decision to launch this groundbreaking graphene production facility.
- The facility is designed to function under a public-private partnership framework and will necessitate an approximate investment of ₹237 crore. The implementation of this project will be overseen by the **Kerala Digital University**, with the **Kerala Industrial Infrastructure Development Corporation (KINFRA)** designated as the entity responsible for the infrastructure development.

PROPERTIES OF GRAPHITE

- A greyish black, opaque substance.
- Lighter than diamond, smooth and slippery to touch.
- A good conductor of electricity and heat.
- A crystalline solid
- Very soapy to touch.
- non-inflammable.
- Soft due to weak Vander wall forces.
- The conductor of electricity.



World's Largest Ghost Particle Detector Trident

- China is constructing world's **largest neutrino-detecting telescope** named "**Trident**" in the western Pacific Ocean to detect elusive particles known as "ghost particles" or neutrinos.
- This pioneering initiative represents a monumental leap in **scientific exploration**.



- **Neutrinos**, similar to neutrons, are a type of electron characterized by their **lack of electric charge**.
- Despite their abundant presence in the universe, they are incredibly minuscule, with trillions passing through matter every second.
- While originally thought to be without mass, scientists have since discovered evidence of their minute mass.

Airbus Tie Up With IIT Kanpur

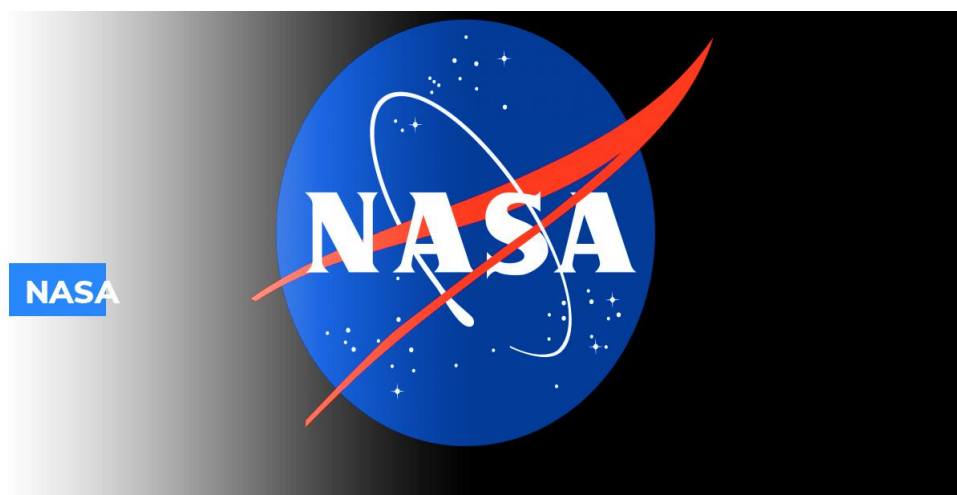
- The Indian Institute of Technology Kanpur (IITK) and Airbus have formalized their partnership through a MoU aims to significantly **enhance the aerospace sector's talent pool** in India through research.
- The primary goal of this collaboration is to establish a **culture of cooperation** that goes beyond conventional academia.
- It will offer mentorship, exposure, and invaluable hands-on experience to IIT Kanpur students.

- This, in turn, will make a substantial contribution to the growth of India's burgeoning aerospace industry.



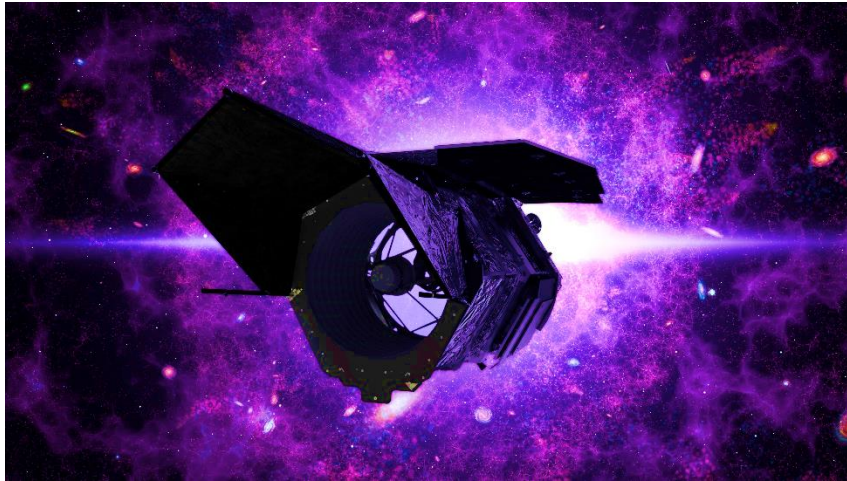
NASA's Roman Space Telescope

- NASA is preparing to embark on a remarkable journey into the **depths of our Milky Way Galaxy** using the Nancy Grace Roman Space Telescope.
- This advanced telescope will scan the vast expanse of space, searching for subtle signals and telltale flickers that could unlock secrets about the cosmos and transform our understanding of the universe.



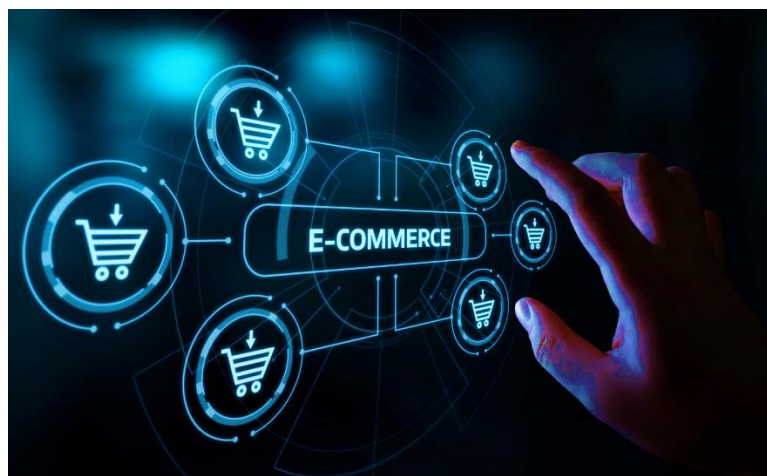
- The primary mission of the **Roman Space Telescope** is to monitor hundreds of millions of stars in our galaxy.
- It aims to detect telltale flickers that reveal the presence of various celestial objects, including planets, distant stars, icy bodies in the outer reaches of our solar system, isolated black holes, and more.

- Scientists anticipate that this telescope will likely set a new record for identifying the **farthest-known exoplanet**, offering us a tantalizing glimpse into uncharted regions of our galaxy that may host diverse worlds beyond the 5,500 exoplanets currently known to us.



Dark Patterns Buster Hackathon 2023

- Centre launches 'Dark Patterns Buster Hackathon 2023' to design & prototype innovative app or software that can detect dark patterns on e-Commerce platforms.
- Department of Consumer Affairs published draft Guidelines on Prevention and Regulation of Dark Patterns seeking public comments/feedback.
- New dark patterns suggested to be included in the list of already 10 specified dark patterns are Rogue Malwares, Trick Wording, Saas Billing etc.



RBI Mandates Minimum 2 Whole Time Directors

- The Reserve Bank of India (RBI) has introduced a crucial requirement for Indian banks, stating that they must now have a **minimum of two whole-time directors** (WTDs) on their boards.
- This mandate extends to the Managing Director and Chief Executive Officer (MD&CEO) position. the RBI highlighted the importance of establishing effective senior management teams in banks.
- This move aims to help banks **navigate the growing complexity** within the banking sector and effectively tackle emerging challenges.
- Notably, this directive applies to both private banks and wholly-owned subsidiaries of foreign banks.



NASA's Mission Dragonfly

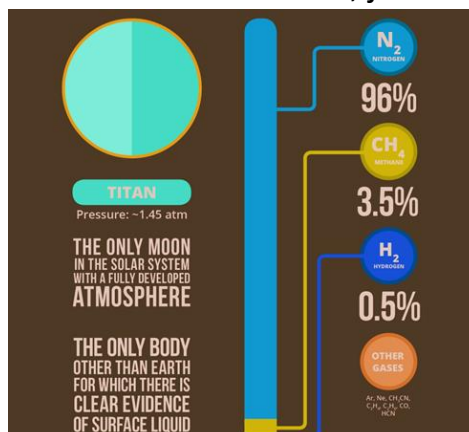
- NASA testing its Dragonfly rotorcraft to ensure it works as intended on **Saturn's moon Titan**. Dragonfly, NASA's **only mission to the surface** of another ocean world, is designed to investigate the complex chemistry that is the precursor to life.
- Dragonfly uses four pairs of coaxial rotors, where one rotor is stacked on top of another in each pair.
- The approach will allow the blades to slice through the nitrogen-rich atmosphere of Saturn's largest moon. NASA engineers are evaluating the performance of the spacecraft in tunnels at the Langley Research Center in

Hampton, Virginia, USA, in unique facilities that are capable of simulating the atmosphere of Titan.

- Dragonfly spacecraft is headed to Titan, on a **mission currently slotted for 2027**. The spacecraft has vertical takeoff and vertical landing capabilities (VTVL), and will be able to visit multiple sites on Titan.



- Titan is the **only moon** in the Solar System with a **thick atmosphere**, as well as liquids on the surface.
- Instead of water, Titan has **hydrocarbon seas**, as well as rivers, ponds and lakes made up of methane and ethane.
- The atmosphere is rich in chemically **active carbon compounds**. As such, Titan can support a hypothetical form of biochemistry where organisms can use the hydrocarbons as solvents instead of water, breathe hydrogen gas instead of oxygen, and use acetylene instead of glucose as a power source, producing methane instead of carbon dioxide.
- Titan also has a **subsurface liquid water ocean**, which may have interacted with the hydrocarbon seas on the surface in the past. The subsurface ocean may host carbon based life forms that use water as a solvent, breathe oxygen, use glucose as a power source and **produce carbon dioxide**, just like the organisms on Earth.



REVIEW QUESTIONS

1. What Is The Purpose Of The "Trident" Telescope

- A. Detecting Asteroids
- B. Studying Black Holes
- C. Detecting Neutrinos
- D. Observing Comets

ANSWER: C

2. Recently Seen In News Graphene Production Facility Unveiled By

- A. Tamil Nadu
- B. Karnataka
- C. Kerala
- D. Gujrat

ANSWER: C

3. Initiative To Design Software To Detect Dark Patterns On E-commerce Platforms

- A. Rogue Malwares Initiative
- B. Dark Patterns Buster Hackathon
- C. Search Hackathon Campaign
- D. Cyber Surakshit Project

ANSWER: B

4. What Is The Primary Mission Of NASA's Roman Space Telescope

- A. Studying Mars
- B. Observing The Moon
- C. Monitoring Stars In Milky Way Galaxy
- D. Observe Asteroids

ANSWER: C

5. What Is The Target Year For Achieving 20 Percent Ethanol Blending

- A. 2025
- B. 2027
- C. 2030
- D. 2045

ANSWER: A

6. Who Is Responsible For Overseeing Infrastructure Development Of Kerala's Graphene Production Facility

- A. Kerala State Council For Science & Technology
- B. Kerala Industrial Infrastructure Development Corporation
- C. Ministry of Science and Technology
- D. Kerala Graphene Corporation

ANSWER: B

7. The IIT Kanpur & Airbus Partnership Aim To Enhance

- A. Software development
- B. Agriculture
- C. Aerospace
- D. Automotive

ANSWER: C

8. Name Of World's Largest Neutrino Detecting Telescope Constructed In Western Pacific Ocean

- A. Trident
- B. NeutrinoX
- C. Ghost Hunter
- D. Neutrino Detector 2023

ANSWER: A

9. Pseudohelice Annamalai Recently Discovered, Belongs To Which Species

- A. Turtle
- B. Spider
- C. Crab
- D. Snake

ANSWER: C

10. Which Country Has Officially Embedded Its Nuclear Weapons Status In Its Constitution

- A. China
- B. Russia
- C. South Korea
- D. North Korea

ANSWER: D

11.1st Woman To Hold Position Of Director General Hospital Services In Indian Military

- A. Major General Madhuri Kanitkar
- B. Lieutenant General Punita Arora
- C. Surgeon Vice Admiral Sheila Samanta
- D. Air Marshal Sadhna S Nair

ANSWER: D

12. When Is Global Media And Information Literacy Week Observed

- A. October 1 to 7
- B. October 24 to 31
- C. November 1 to 7
- D. November 24 to 31

ANSWER: B

13. Appointed As Brand Ambassador Of Edtech Startup, Henry Harvin Education

- A. Chetan Bhagat
- B. Ravinder Singh
- C. Amish Tripathi
- D. Ashwin Sanghi

ANSWER: A

14. Which Country Has Signed A 27-year Natural Gas Deal With Qatar Energy

- A. Germany
- B. France
- C. Italy
- D. Spain

ANSWER: C

15. Which Institution Approved Replacement Of Term "India" With "Bharat" In All Textbooks Across The Country

- A. National Council Of Educational Research And Training
- B. Ministry Of Education
- C. Central Board Of Secondary Education
- D. Indian Council Of Historical Research

ANSWER: A

16. Which Company Acquired PTC India Ltd's Wind Power Division For Rs 925 Crore

- A. Reliance Industries
- B. Tata Group
- C. Adani Power
- D. ONGC

ANSWER: D

17. Which Institution Hosted Bharat National Cyber Security Exercise 2023

- A. NASSCOM
- B. National Security Council Secretariat
- C. NITI Aayog
- D. National Informatics Centre

ANSWER: B

18. Which Institution Released The 'High Cost Of Cheap Water' Report'

- A. WWF
- B. UNEP
- C. NITI Aayog
- D. WAPCOS

ANSWER: A

19. Saint Belec Slab, Is 4,000 Year Old Slab Discovered In Which Country

- A. Greece
- B. France
- C. UK
- D. Australia

ANSWER: B

20. Which State Inaugurated 'Mission Mahila Sarathi'

- E. Bihar
- F. Uttar Pradesh
- G. Kerala
- H. Karnataka

ANSWER: B