

### PROJECT VEER GATHA

The third edition of Project 'Veer Gatha', as part of Republic Day celebrations, has witnessed an overwhelming pan India response.



#### About Project Veer Gatha:

- It is a joint initiative of **Ministry of Defence and Ministry of Education**.
- It was instituted **under Gallantry Awards Portal (GAP)** in 2021.
- **Aim:** With the aim to disseminate the details of **acts of bravery of the Gallantry Awardees** and the life stories of these brave hearts among the students so as to raise the spirit of patriotism and instill amongst them values of civic consciousness.
- Project Veer Gatha deepened this noble aim by providing a **platform to the school students** to do creative projects/activities based on gallantry award winners.
- As part of this, the students framed different projects through various media like art, poems, essays and multimedia on these gallantry award winners and **best projects were awarded** at national level by the Ministry of Defence and the Ministry of Education.

### BOBBILLI VEENA

Despite the longstanding fame of the Bobbili veena, the livelihoods of craftsmen face challenges due to a lack of demand from the public and required patronage from the government.



#### About Bobbili Veena:

- It is a traditional '**Saraswati Veena**' from Bobbili and is famed for its fine tune and distinctive notes.
- It is a large plucked string instrument used **in Carnatic music**.
- The making of the veena began in the **17th century** during the reign of Pedda Rayudu, the king of **Bobbili Samsthanam** who was a great patron of music.

- **Features**
- These veenas are painstakingly **crafted from Jack-wood tree logs** in Gollapalli, a town in Bobbili (Andhra Pradesh).
- It takes almost a full month for a log of mute wood to be crafted into a fine musical instrument.
- Jack-wood is preferred as it is light and the unique grain of the wood renders the quality of swara or tone.
- A single piece of wood is used to create the instrument giving it the name ‘**Ekandi Veena**’.
- These Veenas are also remarkable for the exquisite designs etched on the body, making each piece exclusive.
- With their origin dating back to the Seventeenth Century, these veenas are played in a distinctive style, which also led to the coinage of the ‘**Bobbili Veena Sampradayam**’.
- It earned a **Geographical Indication (GI) tag in 2012** for its unique design and high-quality craftsmanship.

## RBI NORMS FOR POLITICALLY-EXPOSED PERSONS (PEPS)

The Reserve Bank of India (RBI) recently updated Know Your Customer (KYC) norms for politically exposed persons (PEPs) who transact with regulated entities (REs), seeking to comply with the recommendations of the Financial Action Task Force (FATF).

### **New RBI Norms for Politically-Exposed Persons (PEPs):**

- **Who are PEPs?** In the amended KYC master direction, the central bank defines PEPs as "individuals who are or have been **entrusted with prominent public functions by a foreign country**, including the heads of states/governments, senior politicians, senior government or judicial or military officers, senior executives of state-owned corporations, and important political party officials".
- **REs have the option of establishing a relationship with PEPs** (whether as customers or beneficial owners).

- Some **additional conditions** include establishing an **appropriate risk management system** to determine whether the customer or the beneficial owner is a PEP.
- **REs have to take reasonable measures to establish the source of funds/ wealth.**
- They also **need to get approval from senior management** to open an account for a PEP.

## Key Facts about Financial Action Task Force (FATF):

- FATF is an **inter-governmental** policy-making and standard-setting body dedicated to **combating money laundering and terrorist financing.**
- It was **established in 1989 during the G7 Summit** in Paris to develop policies against money laundering.
- In 2001 its mandate expanded to include terrorism financing.
- **Headquarters: Paris, France.**
- FATF members include **39 countries, including the United States, India, China, Saudi Arabia, Britain, Germany, France, and the EU** as such.
- **India became a member of FATF in 2010.**

## What are FATF 'grey list' and 'blacklist'?

- FATF has 2 types of lists:
- **Black List:** Countries known as **Non-Cooperative Countries or Territories (NCCTs)** are put on the blacklist. These countries **support terror funding and money laundering**
- **Grey List:** Countries that are **considered a safe haven for supporting terror funding and money laundering** are put on the FATF grey list. This inclusion **serves as a warning** to the country that it may enter the blacklist.
- Three countries **North Korea, Iran, and Myanmar** are currently on FATF's **blacklist.**
- **Consequences of being on the FATF blacklist:**
- **No financial aid** is given to them by the International Monetary Fund (IMF), the World Bank, the Asian Development Bank (ADB), and the European Union (EU).
- They also face a number of **international economic and financial restrictions** and sanctions.

## WHAT IS 30 DORADUS B?

NASA's Chandra X-ray Observatory recently captured a stunning image of 30 Doradus B, a supernova remnant that is part of a vibrant region of space where stars have been forming for millions of years.



### Why in the News?

- The team of astronomers studying the remnant **discovered that it could not have been formed by a single supernova.** Instead, the researchers believe it was created by at least two.

### What is a Supernova?

- A supernova is the **explosion of a star** whose **luminosity after an eruption suddenly increases** many millions of times its normal level.
- Supernovas are "the **largest explosion** that takes place **in space.**"
- A star can go supernova in one of **two ways:**
- **Type I supernova:** The star **accumulates matter** from a nearby neighbour until a runaway nuclear reaction ignites.
- **Type II supernova:** The star **runs out of nuclear fuel** and **collapses** under its own gravity.
- Supernovas can briefly **outshine** entire galaxies and radiate more energy than our sun will in its entire lifetime.

### Key Facts about NASA's Chandra X-ray Observatory:

- It is a **telescope specially designed to detect X-ray emission from very hot regions of the Universe**, such as exploded stars, clusters of galaxies, and matter around black holes.
- It was **launched by NASA on July 23, 1999.**
- **Because X-rays are absorbed by Earth's atmosphere, Chandra must orbit above it, up to an altitude of 139,000 km (86,500 mi) in space.**

## AI CAN HELP DETECT CANCER

### Why in news?

- Given the escalating cases of cancer, the shortage of specialists poses a significant challenge in curbing fatalities.
- To address this gap, Mumbai's Tata Memorial Hospital (TMH), the biggest cancer hospital in India, is turning to artificial intelligence (AI).
- By establishing a Bio-Imaging Bank for cancer, the hospital is utilising deep learning to craft a cancer-specific tailored algorithm.

### Bio-Imaging Bank

- **Goal**
  - The overarching goal is to create a robust repository encompassing radiology and pathology images, intricately linked with clinical information, outcome data, treatment specifics, and additional metadata.
  - It is strategically designed for the training, validation, and rigorous testing of AI algorithms.

### Role of AI in cancer detection and treatment

- **Early detection by identifying tissue changes and potential malignancies**
  - AI analyses radiological and pathological images, learning from extensive datasets to recognise unique features associated with various cancers.
  - This technology facilitates early detection by identifying tissue changes and potential malignancies.
- **Predictive models for tumour survival and guide treatment aggressiveness**
  - Comprehensive imaging generates longitudinal patient data, aiding in understanding behaviour, treatment response, disease recurrence, and overall survival.

- AI and machine learning protocols utilise this data to develop predictive models for tumour survival and guide treatment aggressiveness.
- **Help avoid unnecessary chemotherapy**
  - The creation of a tumour image bank allows to develop algorithms for different tumours, assess treatment responses directly from images, and avoid unnecessary chemotherapy for predicted non-responders.

## National Cancer Grid (NCG):

- The NCG was established in 2012 as a government of India initiative through the Department of Atomic Energy (DAE) and its grant-in-aid institution, the Tata Memorial Centre.
  - It aims to create a network of cancer centres, research institutes, patient groups and charitable institutions across India with the objective of developing uniform standards of patient care for -
    - Prevention, diagnosis and treatment of cancer;
    - Providing specialised training and education in oncology and
    - Facilitating collaborative basic, translational and clinical research in cancer.
  - NCG today has over 270 hospitals in its network across India.
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## SOHRAI PAINTING

A Bengal village began their New Year with workshop on ancient indigenous art i.e. Sohrai Painting.



### About Sohrai Painting:

- It is an **indigenous mural** art form.
- It is also interesting to note that the word ‘Sohrai’ comes from soro – translating to ‘**to drive with a stick**’.
- This art form dates back to the **Meso-chalcolithic period** (9000-5000 BC).



- The **Isko rock shelter** excavated in Barkagaon, Hazaribagh area also has rock paintings that are exactly similar to the traditional Sohrai paintings.
- **Theme:** It is usually based on natural elements of the universe, this includes forests, rivers, animals amongst others.
- These ancient paintings are made by tribal (Adivasi) women with the use of natural substances like charcoal, clay, or soil.
- The very primitive form of the Sohrai art was in the **form of cave paintings**.
- It is practiced by indigenous communities, particularly in the States of Jharkhand, Bihar, Odisha, and West Bengal.
- The region of **Hazaribagh in Jharkhand** that has received **the GI tag** for this art form.
- It is the art of the women of the Kurmi, Santhal, Munda, Oraon, Agaria, Ghatwal tribes.
- Sohrai paintings are distinctive for their vibrant colours, intricate patterns, and symbolic motifs;
- There is a **Sohrai festival** held every year, marking the harvesting season and the arrival of winter.

## NETAJI SUBHAS CHANDRA BOSE

Leaders like Netaji Subhas Chandra Bose are “immortal” and do not need bestowing of a recognition through a judicial diktat, the Supreme Court said recently.



### About Netaji Subhas Chandra Bose:

- He was an **Indian nationalist leader** who was a key figure in the Indian independence movement against British colonial rule.
- He was born on January 23, 1897, in **Cuttack, Orissa**.
- In 1920, he passed the civil service examination, but in April 1921, after hearing of the nationalist turmoil in India, he **resigned from his position**.
- Bose then **joined the Indian National Congress** and actively participated in the Indian independence movement.
- Bose at first worked with **C.R. Das in Bengal**, under whose mentorship he flowered.

- He was a **close associate of Mahatma Gandhi and Jawaharlal Nehru.**
- Bose was **elected president of the Indian National Congress for two consecutive terms but resigned from the post following ideological conflicts with Mahatma Gandhi.**
- **In 1939, he formed the Forward Bloc, an organization aimed at unifying all the anti-British forces in India.**
- Netaji was **strongly influenced by Swami Vivekananda's teaching** and was known for his patriotic zeal as a student.
- **At the outset of the Second World War, he fled from India and traveled to the Soviet Union, Germany and Japan, seeking an alliance with the aim of attacking the British in India.**
- **With Japanese assistance, he reorganized and later led the Indian National Army, formed from Indian prisoners-of-war and plantation workers from Malaya, Singapore, and other parts of Southeast Asia, against British forces.**
- **With Japanese monetary, political, diplomatic, and military assistance, he formed the Azad Hind Government in exile, and regrouped, and led the Indian National Army in battle against the allies at Imphal and in Burma.**
- He is believed to **have died on August 18, 1945, in a plane crash over Taiwan.** The exact circumstances of his death are still shrouded in mystery and controversy.

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## ISRO TESTS FUEL CELL TO POTENTIALLY POWER SPACE MISSIONS

- The Indian Space Research Organisation (ISRO) successfully demonstrated a fuel cell that uses hydrogen and oxygen to generate electricity and releases heat and water as byproducts.

### What is a Fuel Cell?

- A fuel cell is a **device that makes electricity from fuel and air.**
- Instead of burning the fuel to make heat to drive a mechanical generator, fuel cells react the fuel and air electrochemically, without combustion.



- The electrochemical approach **avoids pollutants** that are created by high flame temperatures, and it is a **more direct and efficient way** to make power from a fuel.
- Fuel cells are configured in stacks of individual cells connected in a series.

## Benefits of Fuel Cells:

- **Clean Energy:** Fuel cells generate electricity through a chemical reaction, producing only water and heat as by-products. This makes them a cleaner alternative to traditional fossil fuels and helps reduce greenhouse gas emissions.
- **High Efficiency:** Fuel cells are highly efficient, with some fuel cell systems achieving efficiencies of up to 60%. This means that more energy is converted into usable electricity, reducing the amount of waste generated during the process.
- **Versatility:** Fuel cells can be used in a variety of applications, from transportation to stationary power systems. This versatility makes them a promising option for India, which is facing a growing energy demand.
- **Reliability:** Fuel cells are highly reliable and can provide a continuous source of energy, making them well-suited for use in critical applications such as hospitals and disaster relief efforts.

## Limitations of Fuel Cell Technology Adoption in India:

- **High Cost:** Fuel cell systems are still relatively expensive compared to traditional energy sources, making it difficult for many organizations to justify the investment.
- **Lack of Infrastructure:** India currently lacks the infrastructure needed to support the widespread adoption of fuel cell technology, including hydrogen production and distribution networks.
- **Technical Challenges:** Fuel cell technology is still in its early stages of development, and there are ongoing technical challenges that need to be addressed before it can be widely adopted in India.