

UPSC Daily Current Affairs| Prelim Bits 13-02-2025

J. C. Bose Grant (JBG)

Why in News?

J. C. Bose Grant (JBG) was launched by the Anusandhan National Research Foundation (ANRF).

- **Launched by** - Anusandhan National Research Foundation (ANRF).
- **Nodal Ministry** - Ministry of Science & Technology.
- **JBG** - It is a restructured form of the *J. C. Bose Fellowship*.

J. C. Bose Fellowship under the Science and Engineering Research Board (SERB) is awarded to active scientists in recognition of their outstanding performance.

- **Aim** - To recognize the outstanding performance and contributions of **senior Indian scientists and engineers** through this extra-mural funding opportunities to enhance their research in cutting-edge scientific and technological areas.
- **Objectives** - To support *senior-level researchers* who have demonstrated exceptional achievements, with evidence of excellence such as:
 - Publications records
 - Research outcomes
 - Patents
 - Technology transfers
 - Awards
 - Grants
- The researcher's achievements include across various domains of science and technology (S&T) including agriculture, medicine, humanities and social sciences at the interfaces of S&T.
- **Eligibility** - Participants must be *active, senior Indian scientists or researchers* with a proven track record of excellence.
- Holding at least a Professor-level position or equivalent at an Indian institution/university.
- **Selection** - It will be conducted once a year by a **Search-cum-Selection Committee** as per the broad guidelines.
- **Grant** - It provides an annual research funding of Rs. 25 lakhs.
- An annual overhead of Rs. 1.0 lakh will be provided to the implementing institution.
- **Duration** - **5 years**.
- **In case of PI** - Principal Investigator (PI) superannuates, during the term of the grants, it can be continued subject to the host institutions willingness to host the PI

and can be availed *until the age of 68*.

References

1. [PIB| J. C. Bose Grant \(JBG\)](#)
2. [ANRF| J. C. Bose Grant \(JBG\)](#)

Unani Medicine

Why in news?

International Conference that was organised by Central Council for Research in Unani Medicine concluded recently.

- **About Unani** - Unani system is one of the oldest systems of medicine, based on the teachings of Hippocrates.

***Hippocrates** is known as the "Father of Medicine" because he established medicine on a scientific basis and raised ethical standards.*

- It is an extensive medical system that deals with *various states of the body (healthy and disease)*.
- The system is integrated in nature and offers preventive, promotive, curative and rehabilitative healthcare.
- UNANI is derived from the word IONIAN which indicates its genesis in the present day Greece (Unan) and TIBB means medicine.
- **World Health Organization (WHO)** - Recognized it in **1976**.
- **Umure Tabiya** - In Unani system of medicine, human body is based on seven natural principles, known as "Umure Tabiya".
- These are the very factors responsible for the existence of the human body and are considered responsible for the maintenance of health.
- The loss of any one of these components could lead even to death of the individual.
- **Hippocratic theory** - Unani system is based on the Hippocratic theory which postulates that a *perfect balance of "Arkan" (elements), "Akhlal" (humors) and "Mizaj" (temperament)* keeps the body and mind healthy.
- The theory presupposes the presence of *four humours* in human body, which are:
 1. Dam
 2. Balgham
 3. Safra (Yellow bile)
 4. Sauda (black bile)
- **Diagnosis** - The most important aspect for the diagnosis of diseases are three in number, and they are Nabz (pulse), examination of baul (urine) and Baraz (stool).
- The surroundings and the ecological conditions are very much responsible for the state of health of a person.
- **International Conference** - Was recently organised by Central Council for Research in Unani Medicine.
- The conference was on the topic "Innovations in Unani Medicine for Integrative Health

Solutions - A way forward”.

References

1. [PIB - Unani Medicine](#)
2. [Directorate of AYUSH - Unani Medicine](#)

International Thermonuclear Experimental Reactor (ITER)

Why in news?

Prime Minister Shri Narendra Modi and the President of France, H.E. Mr. Emmanuel Macron, jointly visited the International Thermonuclear Experimental Reactor (ITER) in France recently.

- **ITER** - Is a large-scale scientific experiment intended to prove the viability of fusion as an energy source by building the world's largest tokamak.
- **Tokamak** - A magnetic fusion device that has been designed to prove the feasibility of fusion as a large-scale and carbon-free source of energy based on the same principle that powers our Sun and stars.
- **Location** - ITER is currently under construction in the *south of France*.

***Fusion** is the nuclear reaction that powers the Sun and the stars, is a promising long-term option for sustainable, non-carbon-emitting energy.*

- **ITER Council** - Is the governing body that supervises the work of the ITER Organization.
- The ITER Council is responsible, in accordance with the ITER Agreement, for the promotion and overall direction of the ITER Organization.
- **ITER Organization** - Is an intergovernmental organization that was created by an international agreement signed in 2006, and formally established on 24 October 2007 after its ratification by all Parties.
- **ITER Members** - China, European Atomic Energy Community (Euratom), **India**, Japan, Korea, the Russian Federation and the United States of America.
- **India** - Is among the seven ITER members contributing to the project over the last two decades.
- Around 200 Indian scientists and associates, as well as notable industry players such as L&T, Inox India, TCS, TCE, HCL Technologies, among others, are engaged in the ITER project.

THE TOKAMAK

A machine to harness the heat energy produced in fusion reactions

BLANKET MODULES 4

Protect the vacuum vessel and magnets from heat and high-energy neutrons

1 VACUUM VESSEL

Provides a high vacuum environment for the plasma, houses fusion reactions and acts as a first safety containment barrier

830m³

will be the plasma volume of the ITER tokamak. The maximum plasma volume in tokamaks operating today is 100m³

7 CRYOSTAT

Surrounds the vacuum vessel and magnets, and ensures an ultra-cool, vacuum environment

SUPPORTING SYSTEMS

These include powerful heating and current drive, diagnostics, cryogenics, cooling, fuelling, vacuum and power supply systems. They enable conditions to create a 150 million °C plasma

2 HEATING UNIT

Uses three sources to heat the plasma—a neutral beam injection and two radio-frequency electromagnetic waves

6 DIAGNOSTICS UNIT

Evaluates and optimises the performance of plasma

5 DIVERTOR

Controls the exhaust of waste gas (helium) and impurities from the reactor

3 MAGNETS

Produces magnetic field to initiate, confine, shape and control the plasma

SUPER FIGURES



1,00,000km niobium-tin (Nb3Sn) superconducting strands are necessary for ITER's toroidal field magnets



150 million °C will be the temperature in the reactor core (*ten times the temperature at the sun's core*)



23,000 tonnes will be the weight of the ITER machine (*as heavy as three Eiffel Towers*)



60 meganewtons will be the force of the **1,000**-tonne electromagnet at the centre of the machine (*twice the thrust of a space shuttle lift-off*)

References

1. [PIB - ITER](#)
2. [Official website - ITER](#)

Climate Risk Index

Why in News?

According to a climate risk index report, India was the 6th most affected by extreme weather events over the last 3 decades from 1993 to 2023.

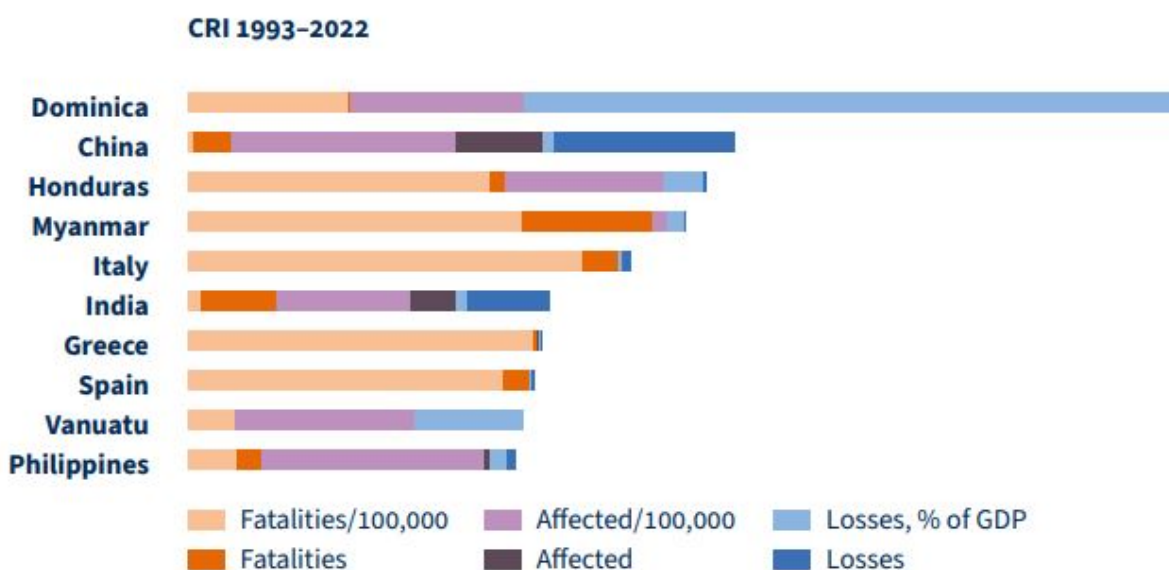
- **Published since** - 2006.
- **Published by** - *German watch*, a non-profit organization.
- **Climate Risk Index** - It is one of the longest running **annual climate impact-related indices**.

- **It uses the data from:**
 - Emergency Events Database (EM-DAT) international disaster database.
 - World Bank.
 - International Monetary Fund (IMF).
- **Methodology** - It analyses climate-related extreme weather events' impacts via 3 hazard categories:
 1. Hydrological
 2. Meteorological
 3. Climatological
- It visualizes such events' degree of effect at 2 years before the index's publication and over the preceding 30 years.
- **6 key indicators** - Economic loss, fatalities, and affected people with each in absolute and relative terms.

Indicators

■ Fatalities, relative	22,50 %
■ Fatalities, absolute	7,50 %
■ Affected, relative	15,00 %
■ Affected, absolute	5,00 %
■ Economic losses, relative	37,50 %
■ Economic losses, absolute	12,50 %

- **Ranking** - It is based on the countries economic and human impacts (fatalities as well as affected, injured, and homeless).
- **Countries most affected in last 3 decades (1993-2022)** - The top 10 countries that are most affected are Dominica, China, and Honduras were the most affected countries followed by Myanmar, Italy and India (6th most affected).



- **India** - It ranks 6th among the top 10 countries which shows high absolute fatalities and economic losses.

- India has faced a variety of increasingly frequent extreme weather events, including floods, heat waves, cyclones, and drought.

More than 400 extreme weather events in the 3 decades, causing losses of nearly USD 180 billion (inflation-adjusted) and at least 80,000 fatalities.

- *Floods and landslides* resulting from heavy monsoons displaced millions and damaged agriculture.
- Cyclones devastated coastal areas, underscoring India's diverse climate risks.

Notable catastrophic events in India	
1998	Gujarat Cyclones
1999	Odisha Cyclones
2014 & 2020	Cyclones Hudhud and Amphan
1993	Floods in northern India
2013 & 2019	Uttarakhand severe floods
1998, 2002, 2003 and 2015	Recurring and unusually intense heat waves, all with temperatures around 50°C, claimed many lives.

References

1. [Down to Earth| India among Top 10 Countries](#)
2. [Germanwatch| Climate Risk Index 2025](#)
3. [Germanwatch Pdf| Countries Most Affected in Last 3 Decades](#)

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Geography

Poonch District

- It is a border district of J & K situated on the Line of Control (LoC).
- **Located in** - West of State bordering Punjab and Himachal Pradesh.
- **Major part** - Occupied by *Pakistan* which is a part of Azad Kashmir territory.
- **Separated from** - Kashmir Valley by gigantic Pir Panjal range.
- **Trade** - Poonch holds a prominent place on the world map for trade along the LoC, particularly at the Chakka-Da-Bagh crossing.
- It is popularly known as *Mini Kashmir*.



Polity & Governance

Launched 41 new books under PM YUVA 2.0 (Pradhan Mantri Young, Upcoming and Versatile Authors)

- **Launched in** - 2022.
- **Initiated by** - Ministry of Education.
- **Part of** - India@75 Project (Azadi Ka Amrit Mahotsav).
- **Theme** - Democracy (institutions, events, people, constitutional values - past, present, future).
- **Aim** - An *author mentorship programme to train young and budding authors* (below 30 years of age) to promote reading, writing & book culture in the country and Indian writings globally.
- **National Book Trust** - It will be translated into other Indian languages ensuring the exchange of culture and literature, thereby promoting '**Ek Bharat Shreshtha Bharat**'.

Market Intervention Scheme (MIS)

- **Launched in** - 1983.
- **Initiated by** - Ministry of Agriculture & Farmers Welfare.
- **Umbrella scheme** - [Pradhan Mantri Annadata Aay Sanraks Han Abhiyan \(PM-AASHA\)](#).
- **Aim** - To procure perishable agricultural product like tomatoes, onions, potatoes & fruits, where the MSP does not apply.
- **Procurement limit of crops** - Increased from the existing 20%-25%.

Prime Minister Employment Generation Programme (PMEGP)

- **Launched in** - 2003.
- **Initiated by** - Khadi and Village Industries Commission (KVIC).
- **Nodal Ministry** - Ministry of Micro, Small and Medium Enterprises (MSME).
- **PMEGP** - It is a major *credit-linked subsidy programme*.
- **Aims** - To Generate jobs by creating micro-enterprises in both rural and urban areas and connect traditional artisans with unemployed youth for local self-employment.
- **Timeline** - 5 years (2021-2026).

DND 3.0 (Do Not Disturb) App

- **Launched by** - Telecom Regulatory Authority of India (TRAI).
- **Updated Features** - An intelligent *spam detection engine* (for SMS only) to assist the subscriber in reporting.
- **Key Features**
 - Crowdsourcing data to quickly detect unregistered telemarketers.
 - Updates on actions taken regarding complaints within the App.
 - Improved interface and setup for user convenience.

National Cooperative Consumers' Federation of India Ltd. (NCCF)

- **Established on** - 1965.
- **Nodal Agency**- Ministry of Consumer Affairs, Food and Public Distribution.
- **Registered under** - Multi-State Co-operative Societies Act, 2002.
- **NCCF** - It is an *apex organization* for the Consumer Cooperatives.
- **Functions** - The organization aims to enhance the consumer cooperative movement.

Security

Aero India 2025

- **Organized by:**
 - Ministry of Defence
 - Defence Exhibition Organisation.
 - Department of Defence Production.
- **Theme** - The Runway to a Billion Opportunities
- **Aero India** - It is a *biennial air show and aviation exhibition* held in Bengaluru.
- **Venue** - Yelahanka Air Force Station.
- It is India's premier aerospace and defence exhibition where global aero vendors and the Indian Air Force (IAF) thrill the spectators with back-to-back aerobatic flying displays.

Manthan 2025

- **Part of** - Aero India 2025, Bengaluru.
- **Organized by:**
 - Innovations for Defence Excellence - Defence Innovation Organisation (iDEX-DIO)
 - Department of Defence Production.
- **Manthan** - It is a flagship *annual defence innovation event*.

Science

CE20 Cryogenic Engine

- **Developed by** - Liquid Propulsion Systems Centre of ISRO.
- **CE20** - It is an indigenous cryogenic engine powering the upper stage of LVM3 (3 stage medium-lift launch vehicle).
- With a multi-element igniter under vacuum conditions, which simulates the engine ignition in the vacuum condition of space.
- **ISRO Test** - It also conducts *successful sea level hot test* of this engine, which paving the way for future missions.

Miscellaneous

World Radio Day

- It is celebrated on the *13th of February* each year.
- **Theme of 2025** - Radio and Climate Change.
- **Aim** - To raise awareness about the importance of radio in all its forms, particularly in rural and underserved areas.
- **Celebrated** - To acknowledge and celebrate the significance of radio in shaping society and culture globally.
- **Recognize** - The importance of radio in promoting information, education, and entertainment across diverse communities.



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