



C.A Dated On 22-10-2018

**General Studies-1**

**75th Anniversary of Formation of Azad Hind Government**

Prime Minister, Shri Narendra Modi, today, hoisted the National Flag at Red Fort, to commemorate the 75th Anniversary of formation of Azad Hind Government, formed by Netaji Subhas Chandra Bose.

**About INA**

- The **Indian National Army (INA; Azad Hind Fauj; lit.: Free Indian Army)** was an armed force formed by Indian nationalists in 1942 in [Southeast Asia](#) during [World War II](#).
- Its aim was to secure [Indian independence](#) from [British rule](#). It formed an alliance with [Imperial Japan](#) in the latter's campaign in the [Southeast Asian theatre of WWII](#).
- The army was [first formed](#) in 1942 under [Mohan Singh](#), by Indian PoWs of the [British-Indian Army](#) captured by Japan in the [Malayan campaign](#) and [at Singapore](#).
- This first INA collapsed and was disbanded in December that year after differences between the INA leadership and the Japanese military over its role in Japan's war in Asia.
- It was revived under the leadership of Subhash Chandra Bose after his arrival in Southeast Asia in 1943.

**General Studies- 2**



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### **NITI Lecture Series**

NITI Aayog is organizing the fourth edition of NITI Lecture Series at Vigyan Bhawan, New Delhi on 22.10.2018 which will focus on AI/

### **AI & NITI**

- Artificial intelligence is the use of computers to simulate human intelligence.
- AI amplifies our cognitive abilities — letting us solve problems where the complexity is too great, the information is incomplete, or the details are too subtle and require expert training.
- Union Budget-2018 mandated NITI Aayog to come up with a national programme on employing Artificial Intelligence towards national development. NITI has, since, published a National Strategy for Artificial Intelligence.
- National Strategy lays down the vision of India for evolving a robust ecosystem for AI research and adoption.
- The Strategy is termed #AIForAll as it is focused on leveraging AI for inclusive growth in line with the Government policy of *Sabka Saath, Sabka Vikas*.

### **About NITI Lecture Series:**

The 'NITI Lectures: Transforming India' was inaugurated by the Prime Minister Shri Narendra Modi on August 26, 2016 and since been held annually, featuring eminent speakers from across the world.

- The first key note address – 'India and the Global Economy' - was delivered by the Deputy Prime Minister of Singapore, Shri Tharman Shanmugaratnam.
- Bill Gates, Co-Founder, Bill and Melinda Gates Foundation delivered the Second lecture in the high-powered lecture series on 'Technology and Transformation' on the November 16, 2016 and
- Dr. Michael Porter, the Bishop William Lawrence University Professor at Harvard Business School, delivered the Third Transforming India Lecture, titled 'Competitiveness of Nations and States: New Insights'.

Through the lectures, NITI Aayog has been bringing policy makers, academics, experts and administrators of global repute to India.



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The aim of the series is to enable learning, both at the Centre & States, from successful development practice world over.

### **General Studies-3**

### **Fusion Energy Conference (FEC 2018)**

### **Why in News?**

The 27th Fusion Energy Conference (FEC 2018) was held recently in Gandhinagar, Gujarat.

- It was organised by the International Atomic Energy Agency (IAEA) and hosted by Department of Atomic Energy and Gandhinagar-based Institute of Plasma Research.

### **About Fusion Energy Conference (FEC 2018):**

- The 27th IAEA Fusion Energy Conference (FEC 2018) aims to provide a forum for the discussion of key physics and technology issues as well as innovative concepts of direct relevance to the use of nuclear fusion as a source of energy.
- The scientific scope of FEC 2018 is intended to reflect the priorities of this new era in fusion energy research.
- With the participation of international organizations such as the ITER Organization and the European Atomic Energy Community (Euratom), as well as the collaboration of more than forty countries and several research institutes, including those working on smaller plasma devices, it is expected that this conference will, like previous conferences in the series, serve to identify possibilities and means for continuous and effective international collaboration in this area.

### **About IAEA:**

- The IAEA is the world's centre for cooperation in the nuclear field. It was set up as the world's "Atoms for Peace" organization in 1957 within the United Nations family. The Agency works with its Member States and



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multiple partners worldwide to promote the safe, secure and peaceful use of nuclear technologies.

- It seeks to promote the peaceful use of nuclear energy, and to inhibit its use for any military purpose, including nuclear weapons.
- IAEA reports to both the United Nations General Assembly and Security Council.
- The IAEA has its headquarters in Vienna, Austria.
- The IAEA serves as an intergovernmental forum for scientific and technical cooperation in the peaceful use of nuclear technology and nuclear power worldwide.

### **Space Related news:**

#### **HAZMAT Programme:**

The HAZMAT programme is an ultraviolet survey of red dwarfs at three different ages: young, intermediate, and old.

- Stellar flares from red dwarfs are particularly bright in ultraviolet wavelengths, compared with Sun-like stars, according to NASA.
- Violent flares from the host star may make planets orbiting it uninhabitable by affecting their atmospheres, scientists using NASA's Hubble Space Telescope have found.
- Hubble is observing such stars through a large programme called HAZMAT — Habitable Zones and M dwarf Activity across Time, NASA said in a statement.

#### **What is M-Dwarf ?**

- "M dwarf" is the astronomical term for a red dwarf star — the smallest, most abundant and longest-lived type of star in our galaxy, according to the study published in The Astrophysical Journal.
- Hubble's ultraviolet sensitivity makes the telescope very valuable for observing these flares.
- About three-quarters of the stars in our galaxy are red dwarfs.
- Most of the galaxy's "habitable-zone" planets — planets orbiting their stars at a distance where temperatures are moderate enough for liquid water to exist on their surface — likely orbit red dwarfs.



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- In fact, the nearest star to our Sun, a red dwarf named Proxima Centauri, has an Earth-size planet in its habitable zone.

#### **Red Dwarf and Ultraviolet Flares:**

However, young red dwarfs are active stars, producing ultraviolet flares that blast out so much energy that they could influence atmospheric chemistry and possibly strip off the atmospheres of these fledgling planets.

Dubbed the "Hazflare," this event was more energetic than the most powerful flare from our Sun ever recorded.

#### **Natural Disaster and World heritage Sites:**

Dozens of UNESCO World Heritage sites in the Mediterranean such as Venice, the Leaning Tower of Pisa and the Medieval City of Rhodes are under severe threat of coastal erosion and flooding due to rising sea levels within the next 100 years, a study has warned.

The study, published in the journal *Nature*, presents a risk index that ranks the sites according to the threat they face from today until the end of the century.

The sites featuring highest on this index in current conditions include:

- Venice and its Lagoon, Ferrara, City of the Renaissance, and its Po Delta and the Patriarchal Basilica of Aquileia.

#### **Cause for Concern:**

- All these sites are located along the northern Adriatic Sea in [Italy](#) where extreme sea levels are the highest because high storm surges coincide with high regional sea-level rises.
- It found that of the sites, 37 are at risk from a 100-year [flood](#) event (a flooding event which has a one % chance of happening in any given year) and 42 from coastal erosion today.



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- By the next century flood risk may increase by 50% and erosion risk by 13% across the region, and all but two of the sites (Medina of Tunis and Xanthos-Letoon) will be at risk from either of these hazards, said researchers.
- The Mediterranean region has a high concentration of UNESCO World Heritage Sites, many of which are in coastal locations as human activity has historically concentrated around these areas, they said.

#### **Way Ahead:**

The researchers have identified areas with urgent need for adaptation planning and suggest the iconic nature of such sites can be used to promote awareness of the need to take action to mitigate climate change.

In some cases relocation of individual monuments, such as the Early Christian Monuments of Ravenna or The Cathedral of St James in ibenik, may be technically possible though not for other sites which extend over large areas such as urban centres, archaeological sites and cultural landscapes, researchers said.

#### **Silver Oak and Carbon Sesquetrating:**

The exotic silver oak may be coffee growers' preferred shade tree now, but research shows that it affects carbon sequestration and tree diversity in Kodagu's agroforest systems.

#### **What is Carbon Sequestration:**

**Carbon sequestration** is the process involved in [carbon capture](#) and the long-term storage of [atmospheric carbon dioxide](#) or other forms of [carbon](#) to [mitigate or defer global warming](#).

It has been proposed as a way to slow the atmospheric and marine accumulation of [greenhouse gases](#), which are released by burning [fossil fuels](#)

#### **Carbon stocks:**



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- Native trees in coffee estates and forests displayed high and comparable carbon stocks (approximately 193 and 222 megagrams (Mg) of carbon (C) per hectare respectively) as well as tree diversity (around 45 tree species).
- However, the introduction of silver oak negatively impacted both carbon stock and diversity.
- Predictably, robusta coffee estates with silver oaks had significantly lower tree diversity (nine species) and lower carbon stocks (up to an average of 65 MgC per hectare) than all other land-use systems in both precipitation zones.

### **Current trends**

Hence, the current trend of replacing native shade trees in coffee estates with silver oaks is detrimental for carbon storage and tree diversity, especially in robusta farms.

Current policies do play a role in this change, because the exotics can be cut for timber without prior permission.