



# drishti

## Important Facts For Prelims (1st June 2019)

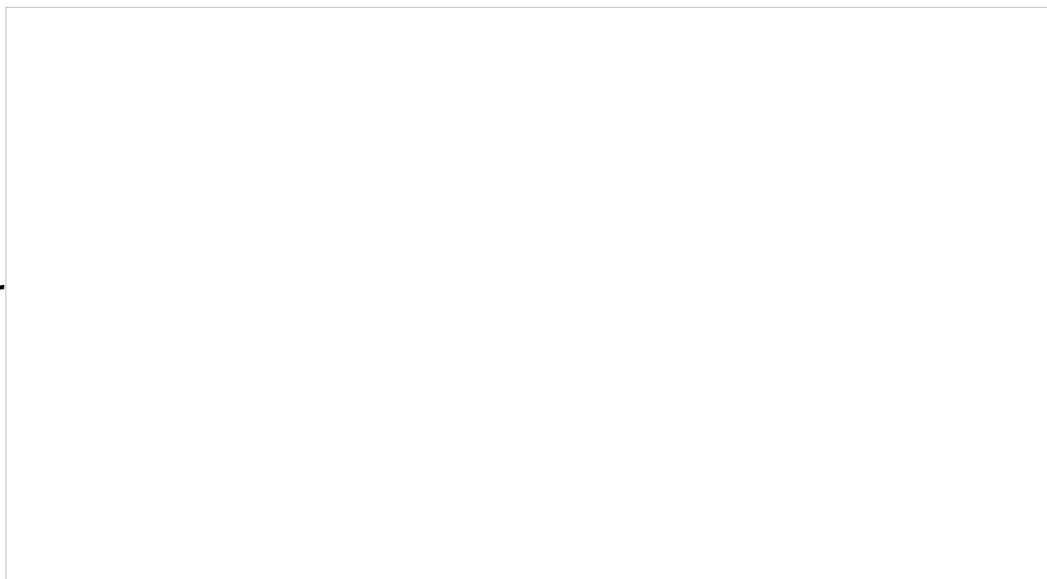
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### Kappaphycus alvarezii

**Kappaphycus alvarezii**, an invasive seaweed which smothers and kills coral reefs, has spread its wings to coral reef areas in **Valai island in the Gulf of Mannar (GoM)** and is set to invade new coral colonies in the Marine National Park.

It has also invaded the shingle, Kurusadai and Mulli islands in Mandapam cluster.

### Gulf of Mannar



- It is an inlet of the Indian Ocean, between southeastern India and western Sri Lanka. It is bounded to the northeast by Rameswaram (island), Adam's (Rama's) Bridge (a chain of shoals), and Mannar Island.
- The gulf is 80–170 miles (130–275 km) wide and 100 miles (160 km) long. It receives several rivers, including the Tambraparni (India) and the Aruvi (Sri Lanka).
- The port of Tuticorin is on the coast. The gulf is noted for its pearl banks and sacred chank (a gastropod mollusk).

### Marine National Park

- The Marine National Park was established in 1982 under the provisions of the Wildlife (Protection) Act, 1972. Total area of the National park is about 162.89 km<sup>2</sup>.
- There are **42 islands** on the Jamnagar coast in the Marine (Gulf of Kutch) National Park, most of them surrounded by reefs.
- **Major ecosystem types** available are coral reefs, mangroves, mudflats, creeks, seagrass, & seaweeds, estuaries, sandy strands to saline grasslands, marshy areas and rocky shores. All ecosystems supports rich marine life & bird life.

## GM fungus kills 99% of malaria mosquitoes

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Research carried out in Western Africa has revealed that, a **fungus genetically modified** to produce **spider toxin** can kill over **99%** of the mosquitoes that spread malaria in just a month and a half.

- The fungus naturally infects **Anopheles mosquitoes** that spread malaria.
- Genetically Modified fungus on detecting mosquitoes, penetrates the mosquito's cuticle and enters the insect, hence it will be **safe for beneficial species of insects** like major pollinators such as honey bees, wasps etc.
- Fungus **Metarhizium pingshaense**, being malleable in nature can be genetically engineered very easily.
- **Genetic instructions** were added to the fungus so it would start making toxin once inside a mosquito.
- Toxin used for injecting into mosquitoes is derived from the venom of the **Australian Blue Mountains funnel-web spider**.

### Significance:

- According to the **World Health Organization** (WHO), malaria affects hundreds of millions of people around the world, killing more than 400,000 annually.
- Decades of insecticide use has failed to control mosquitoes that carry the malaria parasite and has led to **insecticide-resistance** among many mosquito strains.
- Research has paved the way for new avenues in **transgenic approach** to combating malaria.

## Govt hikes National Defence Fund scholarship assistance

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- Prime Minister has approved changes to the Prime Minister's Scholarship Scheme for wards of deceased defence personnel under the National Defence Fund
- It has been increased from ₹2,000 to ₹2,500 a month for boys and from ₹2,250 to ₹3,000 a month for girls.
- Additionally, the ambit of the scheme was widened to cover the wards of State police officials martyred in terror or Naxal attacks.

## National Defence Fund

- The National Defence Fund was set up to take charge of voluntary donations in cash and kind received for promotion of the national defence effort, and to decide on their utilisation.
- The Fund is used for the welfare of the members of the Armed Forces (including Para Military Forces) and their dependents.
- The Fund is administered by an **Executive Committee, with PM as Chairperson, and Defence, Finance and Home Ministers as Members**. Finance Minister is the **Treasurer of the Fund** and the Joint Secretary, PMO dealing with the subject is Secretary of the Executive Committee.
- **Accounts of the Fund are kept with the Reserve Bank of India.**

## Electronic Nicotine Delivery Systems (ENDS)

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- The Indian Council of Medical Research (ICMR) has warned of a potential public health disaster stemming out of Electronic Nicotine Delivery Systems (ENDS) or e-cigarettes.
- Use of e-cigarettes has documented adverse effects on humans which include DNA damage; carcinogenesis; cellular, molecular and immunological toxicity; respiratory, cardiovascular and neurological disorders and adverse impact on foetal development and pregnancy.

## Low-cost indigenous rubbing machine

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- A low cost, indigenous rubbing machine, that plays a key role in the manufacture of **Liquid Crystal Displays (LCDs)**, has been designed and developed by researchers of the University of Hyderabad (UoH).

A liquid crystal display or LCD is combination of two states of matter, the solid and the liquid. LCD uses a liquid crystal to produce a visible image. Liquid crystal displays are super-thin technology display screen that are generally used in laptop computer screen, TVs, cell phones and portable video games. LCD's technologies allow displays to be much thinner when compared to cathode ray tube (CRT) technology.
- **The proper anchoring of liquid crystal is achieved via rubbing. Internationally,** the display manufacturing industries have **large rubbing machines** for in-house consumption and R&D purposes. But, **researchers in India rely on manual rubbing** process with not-so-well-reproducible results.
- A patent has been applied for the machine. Though LCDs are not manufactured in India, yet the advent of this technology is a step ahead in future. It is expected that the machine **will not only encourage LCDs fabrication in the country but also significantly lower the production cost.**

**The cost of the machine** developed with part funding from the Department of

Science and Technology **is more than ten times cheaper than similar ones available in the foreign market.**

## PM-KISAN

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The Union Cabinet has approved the extension of the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN).

The revised Scheme is expected to cover around 2 crore more farmers, increasing the coverage of PM-KISAN to around 14.5 crore beneficiaries.

### PM-KISAN

- The Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme, **announced in the Interim Budget**, is one of the biggest schemes launched by the Government of India till date for providing structured support to small and marginal farmers.
- **Under the scheme, ₹6,000 per year will be provided** to farmers holding cultivable land of up to two hectares.
- The scheme will be implemented with an estimated expenditure of ₹1 lakh crore till 2019-20, **benefiting 12.50 crore small and marginal farmer families.**

## Pension Scheme for Farmers

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The Union Cabinet, has approved a new Central Sector Scheme, that will provide pension cover to farmers.

A voluntary and contributory pension scheme for all **Small and Marginal Farmers (SMF)** across the country has been approved. Entry age of 18 to 40 years with a provision of minimum fixed pension of Rs.3,000/- on attaining the age of 60 years.

- Beneficiary farmer is required to contribute Rs 100/- per month at median entry age of 29 years. The Central Government shall also contribute to the Pension Fund an equal amount as contributed by the eligible farmer.
- After the subscriber's death, while receiving pension, the spouse of the SMF beneficiary shall be entitled to receive 50% of the pension received by the beneficiary as family pension, provided he/she is not already an SMF beneficiary of the Scheme.
- If, the death of the subscriber happens during the period of contribution, the spouse shall have the option of continuing the Scheme by paying regular contribution.

### Synergy between schemes, prosperity for farmers:

- An interesting feature of the Scheme is that the farmers can opt to allow his/her monthly contribution to the Scheme to be made from the benefits drawn from the

Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Scheme directly.

- Alternatively, a farmer can pay his monthly contribution by registering through Common Service Centres (CSCs) under Ministry of Electronics and Information Technology.