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TIFAC

- TIFAC is an autonomous organization, a think tank set up in 1988 under DST.
- It aims to assess the technology trajectories, and support innovation by networked actions in select areas of national importance.
- TIFAC embarked upon the major task of formulating a Technology Vision for the country in various emerging technology areas.
- Under the leadership of Dr. APJ Abdul Kalam, the then Chairman of TIFAC, Technology Vision 2020 exercise led to set of 17 documents, including sixteen technology areas and one on services.
- In more than 25 years of its service to the nation, it has delivered number of technology assessment and foresight reports.
- Recently TIFAC has flagged the lack of infrastructure in the chemical industry in the country as a barrier to competing with China.
- It is also highlighted that India is almost entirely dependent on China for chloroquine and hydroxycholoroquine (HCQ).

T-Cell Responses

- T cells (also called T lymphocytes) are one of the major components of the adaptive immune system.
- Their roles include directly killing infected host cells, activating other immune cells, producing cytokines and regulating the immune response.
- According to recent research natural exposure or infection with the novel coronavirus may “prevent recurrent episodes of severe COVID-19”.
- The study found SARS-CoV-2-specific T cells even in family members who have been exposed to the virus but have tested negative on antibody blood tests.
- All categories of people recovered from moderate or severe COVID-19 disease, or in the convalescent phase after mild or severe disease or exposed family members or healthy people exhibited “robust memory T cell responses months after infection, even in the absence of detectable circulating antibodies specific for SARS-CoV-2.
- This indicates a previously unanticipated degree of population-level

immunity against COVID-19.

- This implies that seroprevalence (the level of a pathogen in a population, as measured in blood serum) as an indicator may underestimate the extent of immunity in the population.
- Even as antibodies wane with time, robust T cell memory formed after SARS-CoV-2 infection suggests that "potent adaptive immunity is maintained to provide protection against severe re-infection".

Air Unique-quality Monitoring (AUM)

- The AUM Photonic System is developed under the Clean Air Research Initiative of Department of Science and Technology.
- The system is based on principals of statistical mechanics, laser backscattering, optoelectronics, AI, machine learning and IoT.
- The system identifies, make classification and quantifies various pollutants present in the air atmosphere.
- It does these three steps simultaneously of the order of less than one part per billion and following the standards of meteorology with high precision and accuracy.
- Karnataka State Pollution Control Board will be operating this system by following the standards of the Central Pollution Control Board of India.

Committee on Minimum Age of Marriage for Women

- Union government has set up a committee to reconsider the minimum age of marriage for women, which is currently 18.
- Union Ministry for Women and Child Development set up a committee to examine matters pertaining to

1. Age of motherhood,
2. Imperatives of lowering Maternal Mortality Ratio
3. Improvement of nutritional levels among women.

- The Committee is headed by Jaya Jaitely.
- It will also look at key parameters like

1. Infant Mortality Rate (IMR),
2. Maternal Mortality Rate (MMR),
3. Total Fertility Rate (TFR),
4. Sex Ratio at Birth (SRB)
5. Child Sex Ratio (CSR).

- It will examine the possibility of increasing the age of marriage for women

from the present 18 years to 21 years.

Link between Age of Marriage and Nutrition

- A study conducted by the International Food Policy Research Institute (IFPRI) published in 2019, showed that children born to adolescent mothers (10-19 years) were 5 percentage points more likely to be stunted (shorter for their age) than those born to young adults (20-24 years), and 11 percentage points more stunted than children born to adult mothers (25 years or older).
- Children born to adolescent mothers also had 10 percentage points higher prevalence of low weight as adult mothers.
- It also highlighted other factors, such as lower education among teenage mothers and their poor economic status, which had the strongest links with a child's height and weight measurements.
- It recommended that increasing age at first marriage, age at first birth, and girl's education are a promising approach to improve maternal and child nutrition.

RTI request on PM-CARES

- The Prime Minister's Office (PMO) has denied a Right to Information (RTI) request related to the PM-CARES Fund on the grounds that providing it would "disproportionately divert the resources of the office.
- Provisions related in RTI act with respect to the move of PMO are as follows

1. Section 8 (1) which lists the various valid reasons for exemptions under the Act, which would allow denial of information.
2. Section 7(9), on the other hand, only says, "An information shall ordinarily be provided in the form in which it is sought unless it would disproportionately divert the resources of the public authority or would be detrimental to the safety or preservation of the record in question."

- However a High Court judgment and multiple orders of the Central Information Commission (CIC) have held that it can only be used to change the format of information provided, not deny it altogether.

PM-CARES Fund vs PM- National Relief Fund

- PM-Citizen Assistance and Relief in Emergency Situations Fund is set up to support the government in its fight against the impact of the coronavirus pandemic.

- The fund consists entirely of voluntary contributions from individuals/organizations and does not get any budgetary support.
- Key Differences between Prime Minister's National Relief Fund and PM-CARES are as follows ,

PM-National Relief Fund	PM-CARES Fund
• PM- National Relief Fund is for all kinds of natural disasters	• PM CARES fund is specially meant for COVID-19 similar pandemic situations.
• Minimum donation received under PM National Relief Fund is Rs 100.	• PM CARES is a donation-based fund and the legislative hurdles for withdrawal from the funds are absent. • The PM CARES Fund tries to differentiate itself from PMNRF by enabling micro-donations. • One can donate as low as Rs 10 in the PM CARES Fund

Source: The Hindu, PIB

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