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Report on API's

- Active Pharmaceutical Ingredient (API) is a substance or mixture of substances contained in a medicine that is intended to cause pharmacological activity.
- Technology Information, Forecasting and Assessment Council (TIFAC) has recently released a report *on 'Active Pharmaceutical Ingredients'.*
- The report highlights are as follows

1. The pharmaceutical industry in India is third largest in the world, in terms of volume, behind China and Italy, and fourteenth largest in terms of value.
2. However due to *availability of cheap imports, the local manufacturing of APIs is very less.*
3. Of the total imports of APIs and intermediates into India, China accounts for 65-70%.
4. The report has recommended to create mega drug manufacturing clusters with common infrastructure in India.

- Along with the report, a white paper titled *'Focused Interventions for Make in India : Post COVID 19' was also released*

TIFAC

- Technology Information, Forecasting and Assessment Council was formed as a registered Society in February, 1988.
- It is an *autonomous body under the Department of Science and Technology.*
- It is mandated to assess the state-of-art of technology and set directions for future technological development in India in important socio-economic sectors.

India Energy Modelling Forum (IEMF)

- India Energy Modelling Forum (IEMF) was launched on July 2,2020.
- It was established by the joint working group meeting of the Sustainable Growth Pillar.
- Sustainable Growth Pillar is an important pillar of *India–US Strategic Energy Partnership co-chaired by NITI Aayog and USAID.*

- The SG pillar entails energy data management, energy modelling and collaboration on low carbon technologies as three key activities.
- The forum would include knowledge partners, data agencies and concerned government ministries.
- NITI Aayog will initially coordinate the activities of the forum and finalizing its governing structure.

Energy Modelling Forum (EMF)

- The Energy Modelling Forum (EMF) in USA was established in 1976 at Stanford University.
- It was to connect leading modelling experts and decision makers from government, industry, universities, and other research organizations.
- It provides an unbiased platform to discuss the contemporary issues revolving around energy and environment.

Human Growth Hormone (hGH)

- Human Growth Hormone (hGH) is produced in the body and secreted by the *pituitary gland near the base of the brain.*
- HGH helps in bone, organ and cartilage growth and also helps in repairing damaged muscles.
- When the gland releases the growth hormone, *it results in the secretion of a protein called IGF-1 from the liver.*
- The IGF-1 protein is what ultimately stimulates the growth of bones, muscle, and other tissues.
- hGH is banned both in-competition as well as out-of-competition by the World Anti- Doping Agency (WADA) as *hGH is known to increase muscle mass, strength as well as tissue-repairing effects.*
- Recently a 2018 Commonwealth Games silver medalist, has been handed a provisional four-year suspension after his blood sample tested positive for human Growth Hormone (hGH).

Kris Gopalakrishnan Committee

- A government committee headed by Infosys co-founder Kris Gopalakrishnan has suggested that *non-personal data generated in the country be allowed to be harnessed by various domestic companies and entities*
- Non-personal data is any set of data *which does not contain personally identifiable information.*
- This in essence means that no individual or living person can be identified by looking at such data.
- Unlike personal data, which contains explicit information about a person’s

name, age, gender, sexual orientation, biometrics and other genetic details, *non-personal data is more likely to be in an anonymised form.*
- The committee has also suggested setting up of a new authority which would be empowered to monitor the use and mining of such non-personal data.

KAZI 106F

- 'Kazi 106F', described as the *country's only Golden Tiger.*
- It resides in world heritage Kaziranga National Park of Assam.
- It is also known as 'Tabby tiger' or 'Strawberry tiger'.
- The skin of tigers is orange-yellow with black stripes and whitish abdominal region.
- The yellowish background is controlled by a set of *'agouti genes'* and their alleles and the black colour stripes are controlled by *'tabby genes' and their alleles.*
- Suppression of any of these genes may lead to colour variation in tiger.
- Agouti genes interacts with the pigment cells to produce yellow to red or brown to black expression.
- This interaction is responsible for making distinct light and dark bands in the hairs of animals such as the agouti here same is happening in our tigress - Kazi 106 F.



Study on Regional Climatic Features

- Indian Institute of Geomagnetism (IIG) has tracked climate change by following the *Paleomonsoonal pattern of the subcontinent* by harnessing magnetic mineralogy.
- The magnetic minerals are sensitive to the physical and chemical environment that they are embedded in.
- These external changes bring about modifications in the innate structure of these magnetic minerals, transitioning them from one magnetic phase to another.
- In this process, the magnetic mineralogy also changes. *For example, from magnetite to hematite and vice versa.*
- The mineral magnetic studies have unraveled 4 regional climatic features encompassing the entire Indian subcontinent and one localized climatic event, they are as follows

1. *Higher monsoon precipitation* in the western part of India was shown to be analogous with glacial melt in the Himalayas.
2. *The weakening of monsoon* was inferred in the Himalayas and the hinterland of Arabian Sea, analogically cold and dry conditions were prevalent at

Dhakuri (Uttarakhand), which led to the formation of loess deposits.

3. *The monsoon intensification* is deciphered in the western and eastern part of India with major implications in the hinterlands of the Arabian Sea and Bay of Bengal.
4. *Holocene aridity and weakened monsoon* was inferred to be prevalent across the subcontinent (Holocene is the current geological epoch).
5. *The localized feature of Younger Dryas* cooling seems to be confined to just the upper reaches of the Himalaya, *Younger Dryas is a period of rapid cooling in the late Pleistocene.*

Source: PIB, Indian Express, the Hindu

