Prelim Bits 05-05-2022 | UPSC Daily Current Affairs

Haflong Hindi

- Haflong Hindi is a **"nativised" Hindi** associated with Assam's only hill station **Dima Hasao**, a district formerly called North Cachar Hills.
- By the time the railway line was completed in 1899, the non-tribal settlers and diverse indigenous communities across the hills had developed a pidgin to communicate among themselves.
- It came to be known as Haflong Hindi, named after the headquarters of the district where the Dimasa people are the dominant community.
- Haflong Hindi follows the Tibeto-Burman grammar, not the Hindi grammar, and has lexical additions from Nepali and Bengali.
- It has a generic plural marker and does not use numbers as in Hindi.

Reference

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2. https://dbpedia.org/page/Haflong_Hindi

Bioluminescence of Fireflies

In a rare phenomenon, fireflies illuminate forests in Anamalai Tiger Reserve.

- Fireflies produce a chemical reaction inside their bodies that allows them to light up. This type of light production is called bioluminescence.
- When **oxygen** combines with **calcium**, adenosine triphosphate (**ATP**) and the chemical **luciferin** in the presence of **luciferase**, a bioluminescent enzyme, light is produced.
- Unlike a light bulb, which produces a lot of heat in addition to light, a firefly's light is "**cold light**" without a lot of energy being lost as heat.
- This is necessary because if a firefly's light-producing organ got as hot as a light bulb, the firefly would not survive the experience.
- A firefly controls the beginning and end of the chemical reaction, and thus the start and stop of its light emission, by adding oxygen to the other chemicals needed to produce light.
- When oxygen is available, the light organ lights up, and when it is not available, the light goes out.
- Insects **do not have lungs**, but instead transport oxygen from outside the body to the interior cells within through a complex series of successively smaller tubes known as tracheoles.
- **High flash rate** - Some firefly species manage such a high flash rate, as the **nitric oxide gas** plays a critical role in firefly flash control.
- In short, when the firefly light is "off" no nitric oxide is being produced.
- The presence of nitric oxide, which binds to the mitochondria, allows oxygen to flow into the light organ where it combines with the other chemicals needed to produce the bioluminescent reaction.
- Because nitric oxide breaks down very quickly, as soon as the chemical is no longer being

produced, the oxygen molecules are again trapped by the mitochondria and are not available for the production of light.

Reference

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2. https://www.scientificamerican.com/article/how-and-why-do-fireflies/#:~:text=This%20type%20of%20light%20production,bioluminescent%20enzyme%2C%20light%20is%20produced.

Reasons for Heatwave

The India Meteorological Department (IMD) said that April 2022 was the hottest in northwest India in 122 years due to the unusually long series of heatwaves that began in the end of March.

- The main reason for the scorching heat in the northern parts of India is **lack of rainfall**.
- Usually, periods of high temperature are punctuated by periodic episodes of rain but this was largely absent during March and April.
- Ironically, April also saw maximum instances of extreme rainfall since 2018 though it was concentrated in the south and north-eastern India.
- The rain-bearing **western disturbances** originate because of temperature gradients between the northernmost parts of the globe and the latitudes passing through West Asia.
- Weaker gradients mean weaker rains. This March and April, cooler than normal conditions in the Pacific Ocean failed to aid rainfall in north India.
- Also, some parts along eastern India registered higher humidity along with high temperatures, leading to a rise in a condition called **'wet bulb' temperature**.
- 'Wet bulb' temperature is a temperature at its mildest can cause extreme discomfort and at its worst cause dehydration and death.

Heatwave

- A heatwave is declared when the maximum temperature is over 40 degrees Celsius and at least 4.5 notches above normal.
- A severe heatwave is declared if the departure from normal temperature is more than 6.4 notches.

Reference

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2. https://www.thehindu.com/sci-tech/energy-and-environment/explained-what-is-causing-the-intense-heat-in-north-west-central-and-east-india/article65369867.ece
3. https://www.deccanherald.com/national/whats-the-cause-behind-indias-intensifying-heatwave-whats-coming-up-next-1105315.html

Lion-Tailed Macaques

- The Lion-tailed Macaques or wanderoos (*Macaca silenus*) are shy, fruit-eating primates.
- It is an Old World monkey **endemic to the Western Ghats** of South India (Tamil Nadu, Kerala and Karnataka).
- It is an '**endangered'** species found only in the rainforests of India's Western Ghats.
- The Lion Tailed Macaques are named so not because of their manes but because of their tails

which resembles a lion's.
- Like most macaques, they have unique cheek pouches to store food.
- They prefer the upper canopies of evergreen rainforests to move around.
- They live in groups and avoid human interaction as much as possible.
- **Threats** - They are reducing in number because of habitat destruction caused by tourism and encroachment, poaching and road kills.
- The biggest threat is the destruction of their rainforest habitat.

Reference

1. https://www.thehindu.com/news/cities/Coimbatore/watch-saving-the-rare-lion-tailed-macaques/article65381970.ece
2. https://www.britannica.com/animal/macaque#ref827548
3. https://www.oneearth.org/species-of-the-week-lion-tailed-macaque/

National Mission for Green India

- National Mission for Green India or the commonly called Green India Mission (GIM) was launched in 2014.
- It is one of the eight Missions under the National Action Plan on Climate Change (NAPCC).
- Its objective is to
    1. Safeguard the biological resources of our nation and associated livelihoods against the peril of adverse climate change and
    2. Recognise the vital impact of forestry on ecological sustainability, biodiversity conservation and food-, water- and livelihood-security.
- GIM aims at protecting, restoring and enhancing India's forest cover by means of plantation activities in forest and non-forest areas.
- It aims at responding to climate change through adaptation and mitigation measures.
- It envisages a holistic view of greening that extends beyond tree planting.
- GIM focuses on multiple ecosystem services such as biodiversity, water, biomass, preserving mangroves, wetlands, critical habitats etc. along with carbon sequestration.

Reference

1. https://pib.gov.in/PressReleasePage.aspx?PRID=1813173
2. https://www.indiascienceandtechnology.gov.in/st-visions/national-mission/national-mission-green-india-gim

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