

SUMMARY OF DOWN TO EARTH

[16–31 October, 2024]

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Subjective Questions

MCQs

- Despite their historical significance and environmental benefits, Kolkata's trams have been steadily declining.
- From 52 routes in the 1970s, the network has shrunk to just a few operational routes today.
- The reasons for this decline include urban congestion, the rise of private vehicles, and a lack of investment in tram infrastructure have all contributed to the trams' diminishing presence.

Environmental and Social Impact

- The decline of the tram system is particularly troubling given Kolkata's severe pollution and congestion issues.
- Trams are a **zero-emission mode of transport**, making them an ideal solution for a city grappling with high levels of air pollution.
- Moreover, trams can carry a large number of passengers, reducing the need for private vehicles and thereby alleviating traffic congestion.

INVASIVE THREAT OF KAPPAPHYCUS ALVAREZII

Context

- India is set to expand seaweed cultivation along its coastline by promoting **Kappaphycus Alvarezii**, a known invasive species that has smothered coral reefs in the Gulf of Mannar over the past two decades.

About the Kappaphycus Alvarezii

- It is a **red seaweed species**, originally introduced for commercial purposes,

this seaweed has **now become a threat to biodiversity**, particularly in regions like the **Gulf of Mannar and Goa**.

- India has cultivated Kappaphycus Alvarezii seaweed, either experimentally or commercially, at more than 48 sites across 9 coastal states and 1 Union Territory.
 - Many of these locations are near coral reefs.

Commercial Value vs. Ecological Threat

- Kappaphycus Alvarezii is valued for its ability to produce carrageenan, an emulsifier used in various industries, including food, beverages, and pharmaceuticals.
- Additionally, it is used to create biostimulants that enhance crop yields.
- Despite these benefits, the seaweed's rapid growth and invasive characteristics pose severe risks to local ecosystems.

Impact on Coral Reefs

- In the Gulf of Mannar, Kappaphycus Alvarezii has smothered and killed coral colonies.
- The **International Union for Conservation of Nature (IUCN)** lists this seaweed as **one of the world's 100 most invasive species**.
- The seaweed's ability to double its size in just 15-30 days allows it to outcompete native species and dominate the marine environment.

Case Study: Goa

- In Goa, fishermen have reported the presence of Kappaphycus Alvarezii in

their nets, raising concerns about its potential impact on local livelihoods.

- The seaweed was introduced in Goa for trial cultivation, but it has since started growing independently, indicating its invasive potential.
- Local fisherfolk are worried about the long-term effects on native seaweed species and the overall marine ecosystem.

MELANISTIC TIGER (BLACK TIGER) IN ODISHA

Context

- Recently, Odisha aimed to introduce two female tigers to Similipal forests to improve genetic diversity of its melanistic tiger population.

About

- Melanistic tigers, often referred to as black tigers, are primarily found in the Similipal Tiger Reserve.
- The state government has announced plans to establish the **world's first melanistic tiger safari**, further highlighting Odisha's commitment to wildlife conservation and tourism.

What are Melanistic Tigers?

- Melanistic tigers are a rare genetic variant of the Bengal tiger, characterised by an excess of dark pigmentation, giving them a striking black appearance. This condition, known as **pseudo-melanism**, results in tigers with thick black stripes that merge together, covering much of their orange fur.



- These tigers are not a separate species but a unique genetic anomaly within the Bengal tiger population.

Similipal Tiger Reserve

- It is located in the **Mayurbhanj district of Odisha**, is the only known habitat for wild melanistic tigers.
- This reserve, sprawling over 2,750 square kilometres, is a biodiversity hotspot, home to a variety of flora and fauna.
- The presence of melanistic tigers in Similipal has been confirmed through camera traps and sightings, making it a significant location for wildlife enthusiasts and researchers alike.

Subjective Questions

1. To what extent do you believe that debt relief for climate-hit nations is a morally imperative response to the disproportionate impacts of climate change on developing countries?
2. How can Panchayats in India effectively contribute to achieving the United Nations' Sustainable Development Goals (SDGs), given their unique role in local governance and community development?
3. How ethical is it to legalise euthanasia in India, considering the country's cultural, religious, and social values?

4. How can we most effectively balance individual liberties with public health measures in future pandemic preparedness and response plans to ensure both the protection of society and the preservation of essential freedoms?

MCQs

Q.1 Which one of the following organisations released the 'Pandemic Prevention, Preparedness, and Response Accord'?

- (a) Doctors Without Borders
- (b) World Bank
- (c) World Health Organization (WHO)
- (d) NITI Aayog

Q.2 With reference to the *Marburg disease*, consider the following:

1. It is a viral zoonotic infection that causes hemorrhagic fever and bleeding.
2. The natural reservoir of the Marburg virus is the African fruit bat.

Which of the statements given above is/are **not** correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q.3 'Mankidia Community', sometimes appeared in the news, belongs to which of the following Indian states?

- (a) Odisha
- (b) Maharashtra

- (c) Madhya Pradesh
- (d) Jharkhand

Q.4 *Kappaphycus Alvarezii* is an invasive species, frequently appeared in the news, primarily affects the:

- (a) Cheetah
- (b) Coral Reef
- (c) Cow
- (d) Fish

Q.5 'Melanistic tigers', sometimes appeared in the news, are primarily found in?

- (a) Sariska Tiger Reserve
- (b) Tadobha Andhari Tiger Reserve
- (c) Satkoshia Tiger Reserve
- (d) Similipal Tiger Reserve

Q.6 With reference to the '*Silicosis is a form of pneumoconiosis*', consider the following statements:

1. It primarily affects workers in industries such as mining, construction, and stone cutting, where silica dust is prevalent.
2. Its symptoms are similar to those of tuberculosis (TB).

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer Keys: _____

1. (c) 2. (d) 3. (a) 4. (b) 5. (d) 6. (c)