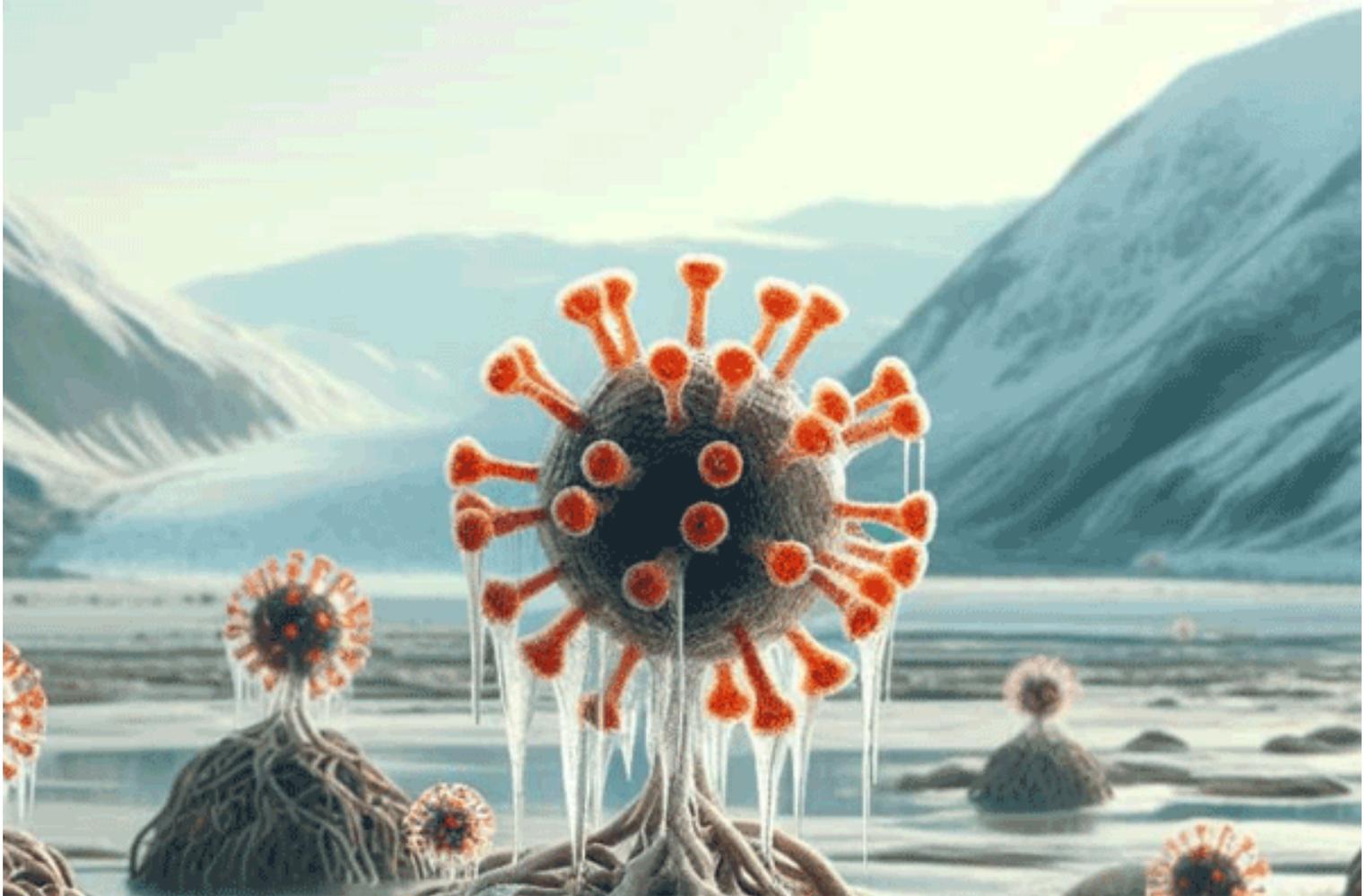


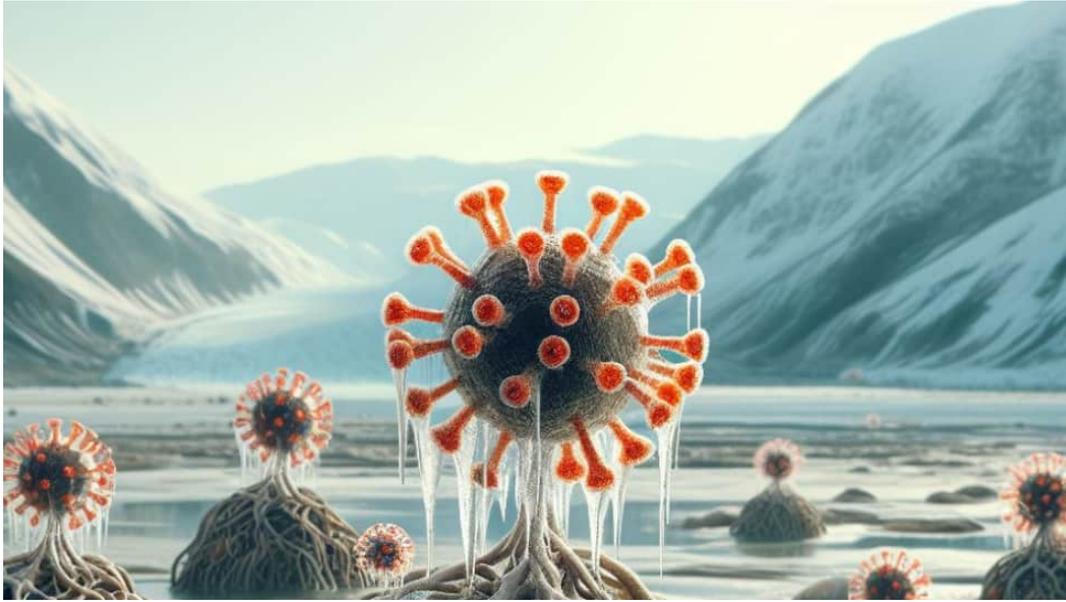
Zombie viruses

By IASToppers | 2024-01-25 15:30:00



Zombie viruses

The melting **Arctic permafrost** poses a unique threat to global health as '**Zombie viruses**' preserved for thousands of years could be released, potentially triggering a **new pandemic**.



[ref-zee news]

About the Zombie viruses:

- The 'Zombie viruses' are **pathogens** capable of **maintaining viability** for **tens of thousands** of years in the **frozen soil**.
- Currently they are buried under **20%** of the Earth's **northern hemisphere**, mainly in the **Arctic region**.
- They are also called the **Methuselah microbes**.

Scientific Findings on Zombie virus:

- In **2014**, scientists had discovered **live viruses** in **Siberia**, demonstrating their ability to **infect single-celled organisms** despite being **48,500 years** old.
- Isolated viruses pose **no risk** to humans, but **genomic traces** of human pathogens like **poxviruses** and **herpesviruses** were also identified.

Permafrost and Climate change:

- Permafrost is a **permanently frozen layer** on or under the Earth's surface.
- A **fifth** of the **northern hemisphere** is covered in permafrost, characterized by soil kept at **sub-zero temperatures** for extended periods.
- Permafrost's **cold, dark**, and oxygen-lacking environment preserves **biological material** effectively.
- Climate change disproportionately affects the Arctic, causing permafrost in regions like Alaska, Siberia, and Canada to **melt**.
- **Rising temperatures** and the **melting** of permafrost due to climate change could release these Methuselah microbes, potentially triggering **catastrophic disease outbreaks** and pandemic.
- **Vanishing Arctic Sea ice** due to climate change facilitates increased shipping, traffic, and industrial development in Siberia.
- Heavy **land use**, common in **industrial activities**, can cause the resurgence of **ancient viruses**,

posing risks to human health.