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### **1. What is Article 99 of the UN Charter, invoked for the first time in decades as Israel attacks Gaza**

Amid Israel's ongoing military attacks on the Gaza Strip, particularly in its southern region, United Nations Secretary-General Antonio Guterres has invoked Article 99 of the UN Charter in a bid to establish a ceasefire.

#### **What is Article 99 of the UN Charter?**

The UN Charter is the founding document of the United Nations. Based on the powers conferred through it, the UN can take action on a wide variety of issues. The Charter is considered an international treaty, meaning UN Member States are "bound by it". However, in practice, there is little that member countries can be forced to do.

Article 99 states: "The Secretary-General may bring to the attention of the Security Council any matter which in his opinion may threaten the maintenance of international peace and security."

According to the UN, the President of the Security Council is under the obligation to call a meeting of the Council if the Secretary-General brings to the attention of the Council any matter under Article 99.

The Security Council (UNSC) comprises five permanent members – the United States, the United Kingdom, France, China and Russia – and 10 non-permanent members appointed for specific periods. On a rotational basis, each of these 15 countries holds the presidency for a month. The South American country of Ecuador is the President for December 2023.

#### **When has Article 99 been invoked in the past?**

The provision has been rarely invoked. Past examples include the upheaval in the Republic of the Congo in 1960 following the end of Belgium's colonial rule and a complaint by Tunisia in 1961 against France's naval and air forces launching an attack.

#### **How has Guterres invoked Article 99?**

In his letter to the UNSC President, Guterres wrote, "I am writing under Article 99 of the United Nations Charter to bring to the attention of the Security Council a matter

which, in my opinion, may aggravate existing threats to the maintenance of international peace and security."

He then spoke of the "appalling human suffering, physical destruction and collective trauma across Israel and the Occupied Palestine Territory." Guterres said that he has repeatedly condemned the October 7 Hamas attacks on Israel that led to the deaths of more than 1,200 people, and called for the release of more than 130 people still held captive.

He added that since the start of Israel's military operation, more than 15,000 have been killed, with nearly 40 per cent being children. The collapse of the healthcare system, difficulties in extending humanitarian relief, and issues of displacement have been pointed to – as a result of the "constant bombardment by the Israel Defense Forces".

Relevance: GS Prelims & Mains Paper II; International Organisations

Source: The Indian Express

## **2. Google DeepMind's AI breakthrough could revolutionise chip, battery development**

### **Introduction**

Artificial intelligence (AI) was used by these researchers to predict the structures of more than 2 million new materials, a breakthrough that could have wide-reaching application in sectors such as renewable energy, battery research, semiconductor design and computing efficiency.

With this DeepMind AI tool, known as Graph Networks for Materials Exploration or GNoME, the design and generation of potential recipes for new material looks far easier now.

### **Why is this significant?**

In one shot, this AI-linked breakthrough increases the number of 'stable materials' known to mankind ten-fold. These materials include inorganic crystals that modern tech applications from computer chips to batteries rely on.

To enable new technologies, crystals must be stable — otherwise they can simply decompose. While these materials will still need to undergo the process of synthesis and testing, DeepMind has published a list of 381,000 of the 2.2 million crystal structures that it predicts to be most stable.

To put this in context, consider the ongoing search for solid electrolytes that could replace the liquid electrolytes that are currently found in Li-ion batteries. As a

prerequisite, these electrolytes have to be stable, should have specific conduction properties, while being non-toxic and non-radioactive.

Relevance: GS Prelims; Science & Technology

Source: The Indian Express

### 3. Google Gemini

#### Introduction

Google Gemini, a new multimodal general AI model that the tech giant calls its most powerful yet, is now available to users across the world through Google Bard, some developer platforms and even the new Google Pixel 8 Pro devices. The new flexible AI model, which comes in three sizes — the yet-to-be-launched Ultra, Pro and Nano — is being seen as Google's answer to ChatGPT which has been ahead of the game so far when it comes to GenAI.

#### So, what is Google Gemini?

Gemini has been built from scratch as a collaborative effort by teams across Google. It is also multimodal, which means it is not limited to the type of information it can process and can work understand and operate across text, code, audio, image and video. In contrast, ChatGPT cannot work on video at the moment.

#### Why does Gemini come in three sizes?

Gemini will be available in different sizes to scale it as per the need. Gemini Ultra, the largest and most capable model, will be meant for highly complex tasks. Since this model is still completing trust and safety checks, it is available now only to select customers, developers, partners and safety and responsibility experts for early experimentation and feedback.

Gemini Pro will be best at scaling across a wide range of tasks and is now available in Bard for regular users across the world.

Gemini Nano will manage on-device tasks and is already available on Pixel 8 Pro, powering new features like Summarise in the Recorder app and Smart Reply via Gboard, starting with WhatsApp.

#### So, is Gemini better than ChatGPT 4?

At the moment it is hard to say, but Gemini seems to be more flexible than GPT4 at the moment. Also its ability to work with video and on devices without Internet give it an edge. Another factor is that Gemini is now free to use while ChatGPT4 is only for paid users.

Relevance: GS Prelims; S & T

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