

**PRELIMS EDGE 2025****10-12-2025****TERMS IN NEWS****Large Language Models**

- A large language model (LLM) is a **type of artificial intelligence (AI) program that can recognize and generate text, among other tasks.**
- LLMs are **trained on huge sets of data**—hence the name “large.”
- LLMs are **built on machine learning**: specifically, a type of **neural network called a transformer model.**
- In simpler terms, an LLM is a computer program that has been fed enough examples to be able to recognize and interpret human language or other types of complex data.
- Many LLMs are trained on data that has been gathered from the Internet—thousands or millions of gigabytes’ worth of text.
- But the quality of the samples impacts how well LLMs will learn natural language, so an LLM’s programmers may use a more curated data set.
- LLMs use a type of machine learning called **deep learning** in order to understand how characters, words, and sentences function together.
- **Deep learning** involves the probabilistic analysis of unstructured data, which eventually enables the deep learning model to recognize distinctions between pieces of content without human intervention.
- LLMs are then further trained via tuning: they are **fine-tuned or prompt-tuned** to the particular task that the programmer wants them to do, such as interpreting questions and generating responses, or translating text from one language to another.
- LLMs can be trained to do a number of tasks. One of the most well-known uses is their application as generative AI: when given a prompt or asked a question, they can produce text in reply.
- The publicly available LLM **ChatGPT**, for instance, can generate essays, poems, and other textual forms in response to user inputs.

Quantum Supremacy



- When a **quantum computer outperforms a classical supercomputer** on a well-defined computer science problem, this achievement is known as quantum supremacy.
- **Superposition** states allow qubits to carry more information.
- Because of quantum superposition, a quantum computer can mimic several classical computers working in parallel.
- This capacity of doing **several computations in parallel** gives quantum computers an advantage over classical computers, allowing them to perform a disproportionately greater number of operations.
- Google's quantum computer, named **Sycamore**, claimed 'supremacy' because it reportedly did the task in 200 seconds that would have apparently taken a supercomputer 10,000 years to complete.

International Organization of Marine Aids to Navigation



- It was established in 1957 as a **Non-Governmental Organisation (NGO)**.
- It officially changed its status from a Non-governmental Organization (NGO) to an Intergovernmental Organization (IGO) based on a Convention ratified by 34 States in 2024.
- Its mandate is to harmonise global maritime navigation systems, promote maritime safety initiatives, and collaborate with member states, international organizations, and industry stakeholders to address emerging challenges in maritime safety and environmental protection.
- **Motto:** Successful Voyages, Sustainable Planet.
- **Governance:** The IALA Council is the key decision-making body of the intergovernmental organization responsible for marine aids to navigation.

It aims to

- Foster safe, economic and efficient movement of vessels by improving and harmonizing aids to navigation worldwide and by other appropriate means.
- Encourage, support and communicate recent developments; develop international cooperation by promoting close working relationships and assistance among members;

- Enhance mutual exchange of information with organizations representing users of aids to navigation.
- **Members:** It comprises 200 members, 80 of which are national authorities and 60 are commercial firms. (India has been a member of this organization since 1957).
- **Headquarters:** Saint-Germain-en-Laye, France.

- Its northern boundary runs along the international border with Bhutan.
- The fragile “**Terai Eco-System**” constitutes a part of this reserve.
- It serves as an international corridor for elephant migration between India and Bhutan.
- The reserve has corridor connectivity across the border with the forests of Bhutan in the North, on the East it has linkages with the Kochugaon forests, Manas Tiger Reserve and on the West with the Jaldapara National Park.
- **Rivers:** Two rivers, namely the River Raidak and the River Jayanti, flow through the forest of Buxa.
- **Vegetation:** The forests of the reserve can be broadly classified as the ‘Moist Tropical Forest’.
- **Flora:** Some of the important species are Sal, Champa, Gamar, Simul, and Chikrasi.
- **Fauna:** The main species include the Tiger, elephant, leopard cat, gaur, wild boar, sambar, hog deer, Chinese pangolin, etc

PLACES IN NEWS

Brunei



- **Location:** It is located along the northern coast of Borneo Island in Southeast Asia.
- **Bordered by:** Brunei is bordered by the South China Sea in the north and on all other sides by Malaysia.
- Brunei is divided into two non-contiguous parts by a portion of the Malaysian State of Sarawak.
- **Capital:** Bander Seri Begawan – the capital and largest city of Brunei.
- It is a member country of the Commonwealth and ASEAN
- It is also a **major oil producer in Southeast Asia**



Buxa Tiger Reserve

- It is located in the Jalpaiguri district of **West Bengal**.

Sultanpur National Park

- Sultanpur National Park is located in the **Gurgaon district in Haryana, 46 km from Delhi**.
- It consists primarily of marshy lakes and floodplains.

- It includes a core area of 1.21 sq. km containing the main Sultanpur Lake/Jheel.
- The Sultanpur Jheel is a seasonal freshwater wetland with fluctuating water levels throughout the year.
- This shallow lake is mostly fed by waters from **River Yamuna's** Gurgaon canal and the overflowing waters of the neighboring agricultural lands.
- It gained national attention in the late 1960s due to the conservation efforts of ornithologists Peter Michel Jackson and Dr. Salim Ali, who frequently visited the site for birding.
- It was recognised as a **Ramsar site** in 2021.
- It has been identified as an **Important Bird Area** by BirdLife International.
- Other faunal species, such as Nilgai, Sambar, Golden jackals, wild dog, striped hyenas, Indian porcupine, mongoose, etc., are also found here.



Flora:

- The vegetation of this park is tropical and dry deciduous, and the flora includes grasses, dhok, khair, tendu, ber, jamun, banyan tree, neem, berberis, Acacia nilotica, and Acacia tortilis.

Fauna:

- Over 320 bird species have been recorded at Sultanpur, making it a vital wintering ground.
- It forms a part of the 'Central Asian Migratory Flyway' and thousands of migratory birds from the countries of Russia, Turkey, Afghanistan, and Europe visit the park during the winter months.
- **Winter Migrants:** Greater Flamingos, Northern Pintails, Eurasian Wigeons, Common Teals, and Bar-headed Geese.
- **Resident Birds:** Indian Peafowl, Red-wattled Lapwings, Cattle Egrets, and White-throated Kingfishers.
- **Rare/Threatened Species:** Sarus Crane, Black-necked Stork, and Indian Courser have been recorded here.

PRACTICE QUESTIONS

Q1; This National Park is located in the Gurgaon district in Haryana, 46 km from Delhi. It consists primarily of marshy lakes and floodplains. It was recognised as a Ramsar site in 2021 and has been identified as an Important Bird Area by Bird Life International.

Identify the National Park from the given description

- Sultanpur National Park
- Kalesar National Park
- Sariska National Park
- Dudwa National Park

Q2; Which of the following tiger reserve is located in the Terai Eco Region

- Buxa Tiger Reserve
- Bhadra Tiger Reserve
- Kawal Tiger Reserve
- Bor Tiger Reserve

Q3; Brunei is a small oil producing country located in which of the following regions

- A. West Africa
- B. Sahel Region
- C. Levant Region
- D. South China Sea

Q4; Sycamore is a quantum computer that is being claimed to have achieved quantum supremacy in 2019. It is being built and owned by which of the following companies

- A. Google
- B. Microsoft
- C. Nvidia
- D. IBM

Q5; Consider the following statements regarding Large Language Models

1. A large language model (LLM) is a type of artificial intelligence (AI) program that can recognize and generate text, among other tasks.
2. LLMs are trained on huge sets of data—hence the name “large.”
3. LLMs are built on machine learning: specifically, a type of neural network called a transformer model.

How many of the above statements are incorrect

- A. Only One
- B. Only Two
- C. All of the Above
- D. None of the Above

Answers

1. A
2. A
3. D
4. A
5. D