



## ChatGPT Chatbot

**For Prelims:** Chatbot and Types, Artificial Intelligence.

**For Mains:** ChatGPT Chatbot, its usage and limitations.

### Why in News?

Recently, OpenAI has introduced a new [chatbot](#) called **ChatGPT, which is** a 'conversational' AI and will answer queries just like a human would.

### What is ChatGPT?

#### ▪ About:

- The ChatGPT can answer **“follow-up questions”**, and can also “admit its mistakes, challenge incorrect premises, and **reject inappropriate requests.**”
- It is based on the **company’s GPT 3.5 series of language learning models (LLM)**.
  - GPT stands for Generative Pre-trained Transformer 3 and this is a kind of **computer language model that relies on deep learning techniques to produce human-like text** based on inputs.
- The model is trained to predict what will come next, and **that’s why one can technically have a ‘conversation’ with ChatGPT.**
- The chatbot was also trained using **Reinforcement Learning from Human Feedback (RLHF)**.

#### ▪ Usage:

- It can be used in **real-world applications** such as digital marketing, online content creation, answering customer service queries or as some users have found, even to help debug code.
- The bot can respond to a large range of questions **while imitating human speaking styles.**
- It is being seen as a replacement for the basic emails, party planning lists, CVs, and even college essays and homework.
- It can also be used **to write code, as examples have shown.**

#### ▪ Limitations:

- The chatbot **displayed clear racial and sexist biases**, which remains a problem with almost all AI models.
- The chatbot gives answers which are grammatically correct and read well- though some have pointed out that **these lack context and substance**, which is largely true.
- ChatGPT occasionally produces inaccurate information and that **its knowledge is restricted to global events** that occurred before 2021.

### What is a Chatbot?

#### ▪ About:

- Chatbots, also called chatterbots, is a form of [Artificial Intelligence \(AI\)](#) used in

messaging apps.

- This tool helps add convenience for customers—**they are automated programs that interact with customers like a human would** and cost little to nothing to engage with.
  - Key examples are **chatbots used by businesses in Facebook Messenger, or as virtual assistants**, such as Amazon's Alexa.
- Chatbots tend to operate in one of two ways—either via **machine learning or with set guidelines**.
- However, due to advancements in AI technology, chatbots using set guidelines are becoming a historical footnote.

▪ **Types:**

◦ **Chatbot with Set Guidelines:**

- It can only respond to a **set number of requests and vocabulary and is only as intelligent** as its programming code.
- An example of a **limited bot is an automated banking bot** that asks the caller some questions to understand what the caller wants to do.

◦ **Machine Learning Chatbot:**

- A chatbot that functions through machine learning have an **artificial neural network** inspired by the neural nodes of the human brain.
- The bot is programmed to self-learn as it is introduced to new dialogues and words.
- In effect, as a **chatbot receives new voice or textual dialogues**, the number of inquiries that it can reply to and the accuracy of each response it gives increases.
  - Meta (as Facebook's parent company is now known) has a machine learning chatbot that creates a platform for companies to interact with their consumers through the Messenger application.

▪ **Advantages:**

- Chatbots are convenient for **providing customer service and support 24 hours a day, 7 days a week**.
- They also free up phone lines and are far less expensive over the long run than hiring people to perform support.
- Using AI and **natural language processing, chatbots are becoming better at understanding what customers want** and providing the help they need.
- Companies also like chatbots because they can collect data about customer queries, response times, satisfaction, and so on.

▪ **Disadvantages:**

- Even with natural language processing, they may **not fully comprehend a customer's input and may provide incoherent answers**.
- Many chatbots are also limited in the scope of queries that they are able to respond to.
- Chatbots can be **expensive to implement and maintain**, especially if they must be customized and updated often.
- The challenges of AI metamorphosing **into sentient are far in the future; however, unethical AI perpetuating historical bias** and echoing hate speech are the real dangers to watch for.

## UPSC Civil Services Examination, Previous Year Question (PYQ)

**Q1. With the present state of development, Artificial Intelligence can effectively do which of the following? (2020)**

1. Bring down electricity consumption in industrial units
2. Create meaningful short stories and songs
3. Disease diagnosis
4. Text-to-Speech Conversion
5. Wireless transmission of electrical energy

**Select the correct answer using the code given below:**

- (a) 1, 2, 3 and 5 only  
(b) 1, 3 and 4 only

- (c) 2, 4 and 5 only  
(d) 1, 2, 3, 4 and 5

**Ans: (b)**

**Q2. Consider the following pairs: (2018)**

|    | <b>Terms sometimes seen in news</b> | <b>Context/Topic</b>    |
|----|-------------------------------------|-------------------------|
| 1. | Belle II experiment                 | Artificial Intelligence |
| 2. | Blockchain technology               | Digital/Cryptocurrency  |
| 3. | CRISPR-Cas9                         | Particle Physics        |

**Which of the pairs given above is/are correctly matched?**

- (a) 1 and 3 only  
(b) 2 only  
(c) 2 and 3 only  
(d) 1, 2 and 3

**Ans: (b)**

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