

## **Day 5: Search Engine Mechanics & SEO Fundamentals (Unit II)**

**Lesson Goal:** Master the core steps a search engine takes to provide results and define the fundamental role of Search Engine Optimization (SEO).

### **1. Search Engine Optimization (SEO) Defined**

- **Definition:** SEO refers to techniques that help your website rank higher in organic (or "natural") search results.
- **Goal:** To make your website more visible to people who are looking for your product or service via search engines.

### **2. How a Search Engine Works**

**Search engines perform several essential activities to deliver search results:**

- **Crawling:** The process of fetching all web pages linked to a website. This task is performed by a software called a crawler or a spider (e.g., Googlebot).
- **Indexing:** The process of creating an index for all the fetched web pages and keeping them into a giant database. Indexing essentially involves identifying the words that best describe the page and assigning the page to particular keywords.
- **Processing:** When a search request comes, the search engine processes it by comparing the search string in the request with the indexed pages in the database.
- **Calculating Relevancy:** The search engine starts calculating the relevancy of each of the pages in its index to the search string, as it's likely more than one page contains the search string.
- **Retrieving Results:** The final step is retrieving the best matched results, which is simply displaying them in the browser.