

1. How to Calculate the Impact Factor of a Journal?

Objective: The objective of this problem is to learn how to measure the overall influence and quality of a research journal by using its impact factor.

Theory:

The impact factor is a common and widely accepted measure to evaluate the importance of a journal in the academic world. It shows how frequently, on average, the articles published in a journal are cited within a given period. This value is usually calculated over a two-year span. The calculation is done by taking the total number of citations received in the current year for the articles that were published in the previous two years, and then dividing that number by the total number of articles published in the same two years. This gives an average citation value per article, which is known as the journal's impact factor. For example, if a journal has published 200 papers in the years 2022 and 2023, and in the year 2024 those papers together received 600 citations, then the impact factor of that journal will be calculated as 600 divided by 200, which equals 3.0. This means that on average, each paper published in that journal was cited three times. The higher the impact factor, the more reputed and influential the journal is considered in the research community.

Impact Factor (IF) tells how often papers in a journal are cited.

Formula: $IF = \frac{\text{Citations in current year to articles published in last 2 years}}{\text{Total article published in last 2 years}}$

Example: If 200 papers published in 2022–2023 got 600 citations in 2024 →

$IF = 600 \div 200 = 3.0$.

Result: Impact Factor shows the influence/quality of a journal.

2. What is Citation?

Objective: The objective of this problem is to clearly understand what citation means in the field of academic writing and research.

Theory:

A citation is a way of giving credit to the original sources of information, ideas, or data that are used in a research paper or article. In the academic world, when a researcher uses another person's work, it must be acknowledged through citation. This prevents plagiarism and shows respect for the intellectual contributions of others. A citation also strengthens the credibility of the research by providing evidence that the claims are supported by earlier studies. Citations usually appear in two forms: inside the text, known as in-text citation, and in the bibliography or reference list at the end

of the paper. In-text citations show exactly which idea or data belongs to another researcher, while the reference list provides full details like author name, year, title, and publisher so that readers can find the original work. Without proper citation, research loses its reliability and authenticity.

1. A citation is a reference to another researcher's work.
2. Used to give credit and support your ideas.
3. Two forms:
 - In-text citation (inside your paper).
 - Reference list (at the end).

Result: Citation builds trust and shows research background.

3. What is WoS and Scopus?

Objective: The objective here is to learn about two of the most widely recognized journal indexing and citation databases, namely Web of Science and Scopus.

Theory:

Web of Science, often referred to as WoS, is one of the oldest and most respected citation indexing services, managed by Clarivate Analytics. It is known for its strict selection process and includes only high-quality journals. Journals indexed in WoS usually have a high reputation and their citation data is used to calculate official impact factors. On the other hand, Scopus is a large abstract and citation database created by Elsevier. It covers a wider range of journals, including more regional and international publications, as well as conferences and books. Scopus provides metrics such as CiteScore and SCImago Journal Rank (SJR), which are also widely used for measuring journal quality. The key difference is that WoS is more selective and often considered the gold standard, while Scopus covers more content and is broader in scope. Both are essential for researchers to find reliable journals and track citation performance.

Result: Both are standard platforms to track journal quality.

4. How to justify a Predatory Journal?

Objective: The objective is to understand how to identify and justify whether a journal is predatory or not.

Theory:

Predatory journals are publications that pretend to be authentic scientific journals but lack proper peer review and editorial standards. They often exist only to collect publication fees from authors without providing genuine academic value. To justify or identify a predatory journal, one needs to look at several features. These journals usually accept papers very quickly without proper review, which is unrealistic in genuine academic publishing. Their editorial boards often include fake or unqualified

members. The quality of their website is often poor, with grammar mistakes and lack of transparency about publication charges. Moreover, they are not indexed in recognized databases such as Web of Science or Scopus. They may also send spam emails inviting researchers to publish papers or join their editorial boards. By checking these aspects, one can easily justify that the journal is predatory and avoid publishing in it.

Signs of a predatory journal:

- No proper peer review.
- Very fast acceptance.
- Fake editorial board.
- High fees without transparency.
- Not indexed in WoS/Scopus.
- Poor website design.

Result: A predatory journal focuses on money, not research quality.

5. How to Download a Paper?

Objective: The objective is to learn different ways of downloading research papers for study and research purposes.

Theory:

Research papers can be downloaded legally through several sources. The most direct way is to access the official publisher's website such as IEEE, Elsevier, Springer, or Taylor & Francis, although many of these require a subscription or payment. University libraries often provide free access to these publishers for their students. Open-access journals allow anyone to freely download papers without any charge. Researchers can also use platforms like Google Scholar to find freely available PDF versions of papers. Another common option is ResearchGate and Academia.edu, where authors themselves upload their work. If a paper is not freely available, one can directly contact the author via email and most authors are willing to share a copy of their work. These methods ensure access to papers while staying within ethical and legal boundaries.

Result:

The result is that research papers can be accessed through multiple legal sources including university libraries, open-access journals, and author networks.

6. How to check the quality of a Journal and Conference?

Objective:

The objective of this problem is to learn the process of verifying whether a journal or conference is of good quality and suitable for research publication.

Theory:

The quality of a journal or conference can be determined by several factors. A high-quality journal is usually indexed in trusted databases such as Web of Science, Scopus, or PubMed. It may also have an official impact factor or ranking metrics like CiteScore or SJR. Another important factor is the reputation of the publisher. Journals from publishers like IEEE, Elsevier, Springer, and Taylor & Francis are generally trusted. A strong editorial board and a transparent peer review process are also signs of a reliable journal. For conferences, quality can be checked by whether they are sponsored or technically co-sponsored by organizations such as IEEE or ACM, and whether their proceedings are indexed in Scopus or other reputable databases. Fake or low-quality conferences often promise fast publication and lack proper review.

Result:

The result is that quality journals and conferences can be identified by their indexing status, publisher reputation, and peer review process.

7. How to Calculate h and i10 index?**Objective:**

The objective is to understand the methods of calculating researcher-level citation metrics such as the h-index and the i10-index.

Theory:

The h-index is a metric that measures both the productivity and the impact of a researcher's work. A researcher has an h-index of h if they have published at least h papers that have each been cited at least h times. For example, if a researcher has published five papers and their citation counts are 20, 15, 10, 5, and 3, then the h-index is 4 because four papers have received at least four citations. The i10-index, on the other hand, is a simpler measure introduced by Google Scholar. It refers to the number of papers that have received at least 10 citations. In the previous example, three papers have more than ten citations, so the i10-index is 3. These indexes are helpful for evaluating the research influence of an individual, especially when comparing different researchers.

Result:

The result is that the h-index and i10-index provide useful measures of a researcher's productivity and citation impact.

8. How to search for a relevant sector professor?

Objective:

The objective is to learn effective methods of searching for professors who specialize in a particular research sector.

Theory:

Finding a professor in a relevant research sector is important for collaboration, supervision, or guidance. One effective method is to use Google Scholar, where researchers can be searched by keywords related to their field of study. Platforms like Scopus and Web of Science also allow searching for authors and provide information about their publications and citations. Research networks like ResearchGate and Academia.edu are very useful for finding active researchers and connecting with them. LinkedIn can also be used to search for professors by using research topics as keywords. Additionally, university websites usually list faculty members along with their research interests and publications, which makes it easy to identify the right professor. By combining these sources, a student or researcher can find experts who are most relevant to their own research area.

Result:

The result is that relevant professors can be found through academic databases, research networks, and university websites.