Ranking Formula for JEE/NEET YouTube Videos

This document outlines the ranking formula and factor-based scoring model for prioritizing JEE/NEET preparation videos based on relevance and engagement.

# Ranking Formula

Ranking Score = (SubjectWeight × SubjectScore) + (CourseWeight × CourseScore) + (PublishingWeight × PublishingScore) + (LikeWeight × LikeScore) + (CommentWeight × CommentScore) + (ViewWeight × ViewScore)

# Factor Weights (Total 100%)

|  |  |  |
| --- | --- | --- |
| Factor | Weight (%) | Description |
| Subject | 20% | Relevance to target subject (Physics, Chemistry, Biology, Math) |
| Course Type | 15% | Video relevance to course type (Crash Course, Full Course, Topic-wise) |
| Publishing Date | 10% | Recency of video (newer videos preferred) |
| Likes | 20% | Engagement metric indicating popularity |
| Comments | 15% | Measure of user interaction and value |
| Views | 20% | Total reach and initial interest shown by audience |

# Scoring Details for Each Factor (out of 1)

1. SubjectScore:

* - Exact match → 1.0  
  - Partial match → 0.5  
  - No match → 0

2. CourseScore:

* - Exact match → 1.0  
  - General info videos → 0.5  
  - Irrelevant → 0

3. PublishingScore:

* - Published within last 6 months → 1.0  
  - Within last 1 year → 0.75  
  - Over 1 year ago → 0.5

4. LikeScore:

* LikeScore = min(1, Likes / (Views × 0.05))

5. CommentScore:

* CommentScore = min(1, Comments / (Views × 0.01))

6. ViewScore:

* ViewScore = (Views - minViews) / (maxViews - minViews)

# Example Calculation

Given:  
- Subject: Physics (Score = 1.0)  
- Course: Topic-wise (Score = 0.75)  
- Published 4 months ago (Score = 1.0)  
- 10,000 likes on 200,000 views → LikeScore = 1.0  
- 1,000 comments → CommentScore = 0.5  
- Views = 200,000; minViews = 50,000, maxViews = 500,000 → ViewScore ≈ 0.333

Ranking Score = (0.2×1.0) + (0.15×0.75) + (0.1×1.0) + (0.2×1.0) + (0.15×0.5) + (0.2×0.333) ≈ 0.7541