**Purpose:** This guide is designed to help reviewers provide consistent, constructive, and ethically sound evaluations of manuscripts submitted to the *Journal of Chemistry and Allied Sciences (JCAS)*. It emphasises rigour, reproducibility, clarity, and emerging standards such as AI tool transparency.

**A. Section-by-Section Evaluation Table**

Each section includes evaluation points, a weighted score (0–5), and structured reviewer prompts. Use the weights to inform your overall recommendation.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/n** | **Section** | **What to Check** | **Best Practice Standard** | **Red Flags / Required Action** | **Reviewer Notes (Guided Prompts)** | **Yes/No** | **Score (0–5)** |
| 1 | **Title & Author Details** | Clarity, specificity, author identity | ✓ ≤18 words, technical focus ✓ Full author names ✓ ORCID, institutional emails, country code phone numbers | ⚠️ Vague, generic, or misleading title ⚠️ Missing ORCID or unclear affiliation 🔴 Reject if authorship is unverifiable | *Does the title reflect the content? Are all authors clearly identified with institutional credentials?* |  | /5 |
| 2 | **Abstract (Structured, 150–250 words)** | IMRaD format; 4–5 keywords | ✓ Background, method, results, impact ✓ Quantified outcomes ✓ 4–5 relevant keywords | ⚠️ Missing structure or metrics ⚠️ Unclear objectives 🔴 Reject if incoherent or exceeding word count | *Is the abstract self-contained and informative? Are the key outcomes and methods evident?* |  | /5 |
| 3 | **Graphical Abstract** | Technical clarity and visual summary | ✓ ≥300 dpi, minimal text ✓ Reflects core result visually ✓ Placed before Introduction | ⚠️ Low resolution, overly text-based ⚠️ Visually ambiguous 🔴 Request replacement or remove | *Does the visual aid add clarity? Is it technically accurate and high-quality?* |  | /5 |
| 4 | **Introduction** | Gap, motivation, novelty, and roadmap | ✓ Recent references (2020–2024) ✓ Novelty clearly articulated ✓ Outline of structure | ⚠️ Generic claims ⚠️ Weak literature grounding 🔴 Revise if lacks motivation or roadmap | *Is the research gap clearly identified? Does the intro justify the study?* |  | /5 |
| 5 | **Methods** | Data integrity, model setup, reproducibility | ✓ FAIR data principles ✓ Full preprocessing steps ✓ Hyperparameters + 5-fold CV or equivalent validation ✓ p-values < 0.05 when applicable | ⚠️ Missing critical steps/code ⚠️ No baseline comparisons 🔴 Request methods clarification or data/code deposit | *Can another researcher replicate the study based on this section?* |  | /5 |
| 6 | **Results & Discussion** | Visuals, quantitative findings, critical insight | ✓ Statistical metrics: CI, p-values, AUC ✓ Visual aids with labels/error bars ✓ Limitations and scope discussed | ⚠️ Lack of numerical evidence ⚠️ Results unlinked from literature 🔴 Major revision for missing or flawed analytics | *Are results statistically and contextually sound? Are limits acknowledged?* |  | /5 |
| 7 | **Conclusion** | Real-world application, policy/scientific impact | ✓ No new data ✓ Summary aligns with findings ✓ Quantifiable impact (e.g., savings, efficiency) | ⚠️ Unsupported claims ⚠️ Overly vague or philosophical 🔴 Refocus or condense | *Does the conclusion clearly summarize and contextualize the study's implications?* |  | /5 |
| 8 | **Ethics & Reproducibility** | AI/editorial tools, IRB/GDPR, data/code access | ✓ IRB/GDPR/ethics noted ✓ GitHub, Zenodo, NDA or public links ✓ Disclosure of AI tools (e.g., ChatGPT) | ⚠️ Omission of ethical/compliance details ⚠️ Undisclosed automated contributions 🔴 Escalate if suspicious | *Are ethical standards upheld? Can reviewers/auditors access supporting data/code?* |  | /5 |
| 9 | **References** | Recency, formatting, validity | ✓ ≥50% from last 5 years ✓ APA 7 compliant ✓ DOIs or active links for all sources | ⚠️ Predatory/outdated references ⚠️ Inconsistent format 🔴 Major format or credibility revision | *Are sources credible, recent, and properly formatted?* |  | /5 |
| 10 | **Declarations** | Authorship integrity, conflicts of interest (COI), AI usage | ✓ COI and AI tool use declared ✓ Author contributions and originality affirmed | ⚠️ Missing statements ⚠️ Undeclared third-party or automated content 🔴 Request disclosure or clarification | *Is authorship clearly and ethically presented?* |  | /5 |

**B. Scoring & Decision Table**

Use the total score (max = 50) and section-specific concerns to guide your recommendation.

| **Score** | **Interpretation** | **Action** |
| --- | --- | --- |
| **43–50** | Excellent in clarity, reproducibility, ethics, and technical novelty | ✅ Accept (minor or no revision) |
| **33–42** | Scientifically valid but requires improvement in clarity, structure, or reproducibility | 🔁 Major Revision |
| **20–32** | Lacks rigor, novelty, or ethical completeness | ❌ Reject or recommend resubmission |
| **<20** | Serious flaws in concept, ethics, or validation | ❌ Reject outright |

**C. Reviewer Details**

Please complete:

* **Reviewer Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Affiliation:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Email:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Date:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Manuscript Title:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Manuscript ID (if applicable):** \_\_\_\_\_\_\_\_\_\_\_\_\_

**D. Recommendation**

(✓ one)

* Accept
* Minor Revision
* Major Revision
* Reject

**E. Comments to Editor (Confidential)**

*Highlight any ethical concerns, conflict of interest, or doubts about authorship/integrity.*

**F. Comments to Authors**

*Be constructive and specific. Comment on novelty, reproducibility, ethical transparency, and how the manuscript could be improved.*

**Optional Addenda**

* For **interdisciplinary papers**, reviewers may adapt section weighting and apply qualitative judgment.
* For **early-stage concepts or proof-of-principle work**, sections 5–7 may be more lenient if scientific reasoning is sound and well-motivated.