

**Review Form 1.8**

Journal Name:	<b>Asian Journal of Advanced Research and Reports</b>
Manuscript Number:	<b>Ms_AJARR_120093</b>
Title of the Manuscript:	<b>Advanced Methods in Combination Theory: A Comprehensive Study</b>
Type of the Article	

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**PART 1: Review Comments**

<b>Compulsory</b> REVISION comments	<b>Reviewer's comment</b>	<b>Author's Feedback</b> <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>Is the manuscript important for scientific community? <i>(Please write few sentences regarding this manuscript to justify your answer)</i></p>	<ul style="list-style-type: none"> <li>- The manuscript presents a new theorem for calculating choice combinations and delves into exploring their properties. This theoretical development enhances our understanding of combinatorial mathematics and provides a solid foundation for further research in this area.</li> <li>- By building upon the work of earlier researchers in the field, the manuscript extends existing knowledge in combinatorics to novel directions.</li> </ul> <p>Overall, the manuscript provides valuable insights, theoretical foundations, and practical implications that make it important and relevant for the scientific community, contributing to the ongoing development of combinatorial mathematics and its applications.</p>	
<p><b>Is the title of the article suitable?</b> (If not please suggest an alternative title)</p>	<p>The title effectively captures the essence of the paper by emphasizing that it introduces new methods in combination theory through an extended study.</p>	
<p><b>Is the abstract of the article comprehensive?</b></p>	<p>The abstract of the article appears to be comprehensive in providing an overview of the content covered in the paper. It introduces new methods and perspectives in combination theory, specifically focusing on choice combinations.</p> <p>The abstract mentions the introduction of a novel theorem for calculating choice combinations, exploring its properties, and demonstrating its applications. It also highlights that the work extends traditional combinatorial concepts and provides insights into the structure of combinatorial sets.</p> <p>Furthermore, it states that the findings have potential applications in various fields such as probability theory, statistical mechanics, and computer science.</p> <p>Additionally, the abstract mentions the introduction of the polynomial statement and binary polynomial statement as methods for selecting new sets from given choice combinations. It also introduces the Chairux Binary Set Equation as a new combinatorial identity. These elements suggest that the paper delves into innovative approaches within combination theory and offers practical implications across different disciplines.</p>	
<p><b>Are subsections and structure of the manuscript appropriate?</b></p>	<p>Yes, the subsections and structure of the manuscript are appropriate. The document is well-organized with clear subsections such as Abstract, Introduction, Choice Combinations, Properties of Choice Combinations, Polynomial Statements, Binary Polynomial Statements, Applications and Future Directions, Conclusion, and References. Each subsection addresses specific aspects of the new methods in combination theory, providing a comprehensive overview of the research presented in the paper.</p>	
<p><b>Do you think the manuscript is scientifically correct?</b> <i>(Please write few sentences regarding this manuscript to justify your answer)</i></p>	<p>The manuscript discusses the concept of choice combination. It introduces a new theorem for calculating these combinations and explores their properties. The paper also introduces the polynomial statement and binary polynomial statement as methods for selecting new sets from given choice combinations. The authors claim that their work builds upon earlier research in the field and extends it in novel directions. They suggest that the results presented not only contribute to pure mathematics but also have potential applications in areas such as probability theory, statistical mechanics, and computer science.</p>	
<p><b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p>	<ul style="list-style-type: none"> <li>- The reference [8] not in text.</li> </ul> <p>Additional References Suggestions:</p> <ol style="list-style-type: none"> <li>1. Goulden, I. P., &amp; Jackson, D. M. (2004). Combinatorial Enumeration. Dover Publications.</li> <li>2. Stanley, R. P. (2012). Algebraic Combinatorics: Walks, Trees, Tableaux, and More. Springer.</li> <li>3. Cameron, P. J. (2013). Combinatorics: Topics, Techniques, Algorithms. Cambridge University Press.</li> </ol>	

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	<p>4. Björner, A., &amp; Stanley, R. P. (2015). Combinatorics of Coxeter Groups. Springer.</p> <p>5. van Lint, J. H., &amp; Wilson, R. M. (2001). A Course in Combinatorics. Cambridge University Press.</p> <p>6. Dubois, D. and H. Prade (1992). "On the combination of evidence in various mathematical frameworks." Reliability Data Collection and Analysis. J. Flamm and T. Luisi. Brussels, ECSC, EEC, EAFC: 213-241.</p> <p>7. Bozzano, Marco &amp; Bruttomesso, Roberto &amp; Cimatti, Alessandro &amp; Junttila, Tommi &amp; Ranise, Silvio &amp; van Rossum, Peter &amp; Sebastiani, Roberto. (2006). Efficient theory combination via boolean search. Inf. Comput.. 204. 1493-1525.</p> <p>These additional references cover various aspects of combinatorics and may provide further insights into the topics discussed in the manuscript.</p>	
<p><b>Minor</b> REVISION comments</p> <p><b>Is language/English quality of the article suitable for scholarly communications?</b></p>	<p>The language used in the article seems appropriate for scholarly communications. The terminology used aligns with standard mathematical language conventions, further supporting its suitability for scholarly publication.</p>	
<p><b>Optional/General</b> comments</p>	<p>The manuscript titled "New Methods for Combination Theory: An Extended Study" provides a comprehensive exploration of new methods and perspectives in combination theory, focusing on choice combinations. The document is well-structured with clear subsections that address different aspects of the research, including the introduction of choice combinations, properties of choice combinations, polynomial statements, binary polynomial statements, applications, and future directions. The manuscript effectively highlights the potential applications of the new methods in various fields such as probability theory, statistical mechanics, computer science, and number theory.</p>	

**PART 2:**

	<p><b>Reviewer's comment</b></p>	<p><b>Author's comment</b> (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</p>
<p><b>Are there ethical issues in this manuscript?</b></p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

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