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| Book Name: | **Finite Abelian Groups, Elliptic Curves, Blockchain with Hashing and Graphs** |
| Manuscript Number: | **Ms\_BPR\_3842.2** |
| Title of the Manuscript:  | **Introductory Essentials to Finite Fields** |
| Type of the Article | **Book Chapter** |

**General guidelines for the Peer Review process:**

This Book’s peer review policy states that **NO** manuscript should be rejected only on the basis of ‘**lack of Novelty’**, provided the manuscript is scientifically robust and technically sound.

To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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**Important Policies Regarding Peer Review**

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| PART 1: Review Comments |
| Compulsory REVISION comments | Reviewer’s comment | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.** | This manuscript provides a foundational exploration of finite fields, their extensions, and applications. The structured approach to key definitions and examples aids in developing a comprehensive understanding of finite fields, crucial for mathematical research, cryptography, and theoretical computer science. The exercises and proofs further enhance its utility as a learning and reference tool. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | The title is suitable as it accurately reflects the content. However, consider specifying "finite field extensions and their properties" to emphasize the manuscript's focus. |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | The manuscript does not include a formal abstract. Adding one summarizing the key topics (finite fields, field extensions, and splitting fields) would improve clarity and accessibility. |  |
| **Are subsections and structure of the manuscript appropriate?** | The structure and subsections are logical and appropriate. Sections are systematically laid out with definitions, examples, lemmas, and proofs followed by exercises. This aids both theoretical understanding and practical application. |  |
| **Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.** | The manuscript is scientifically robust. The provided proofs, particularly for extension fields and the Wedderburn theorem, demonstrate technical soundness. The exercises complement the theoretical content and ensure comprehension. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | The references seem adequate, but there is room for updating with more recent works in applied areas like cryptography and blockchain, which extensively use finite fields. |  |
| Minor REVISION commentsIs the language/English quality of the article suitable for scholarly communications? | The manuscript's language is comprehensible but could benefit from further refinement. Sentences like "We deduce that" and "This is to say" are sometimes overly repetitive. Ensure consistent formatting for equations and definitions. |  |
| Optional/General comments | The manuscript's blend of theory and exercises makes it a valuable educational resource. The focus on the algebraic structure of finite fields is well-detailed. Adding practical applications (e.g., cryptography) in an appendix might increase appeal to a broader audience.refer this paper and add a section on cryptography- https://www.researchgate.net/profile/Chaitanya-Mahamuni/publication/344295537\_A\_Multivariate\_Public\_Key\_Cryptosystem\_MPKC\_for\_Digital\_Image\_and\_Video\_Encryption\_based\_on\_Multiple\_Permutation\_Polynomials\_over\_Finite\_Fields\_with\_a\_Novel\_Approach\_for\_Secure\_Key\_Transmission/links/5f64449ba6fdcc00862974a5/A-Multivariate-Public-Key-Cryptosystem-MPKC-for-Digital-Image-and-Video-Encryption-based-on-Multiple-Permutation-Polynomials-over-Finite-Fields-with-a-Novel-Approach-for-Secure-Key-Transmission.pdf |  |

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| **PART 2:**  |
|  | **Reviewer’s comment** | **Author’s comment *(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)*** |
| **Are there ethical issues in this manuscript?**  | ***(If yes, Kindly please write down the ethical issues here in details)*** |  |

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| **Reviewer Details:** |
| **Name:** | **Anonymous reviewer (Only for this stage as per Review policy)** |
| **Department, University & Country** |  |