



**SDI Review Form 1.6**

|                          |                                                                                                                              |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Journal Name:            | <a href="#">British Journal of Mathematics &amp; Computer Science</a>                                                        |
| Manuscript Number:       | Ms_BJMCS_19442                                                                                                               |
| Title of the Manuscript: | Construction of Maximum period Linear Feedback Shift Registers (LFSR) (Primitive polynomials and linear recurring relations) |
| Type of the Article      | Original Research Article                                                                                                    |

**General guideline for Peer Review process:**

This journal'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 guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



**SDI Review Form 1.6**

**PART 1: Review Comments**

|                                     | 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)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Compulsory</b> REVISION comments | <ol style="list-style-type: none"> <li>1. There are errors in Figure 6: LFSR in mode Galois. Please refer to Goresky, Mark, and Andrew M. Klapper. "Fibonacci and Galois representations of feedback-with-carry shift registers." <i>Information Theory, IEEE Transactions on</i> 48.11 (2002): 2826-2836 and correct the figure.</li> <li>2. In the paper the symbol <math>p</math> is used to denote different things, which can lead to confusions. For example: maximal period <math>p = 2^n - 1</math>; <math>GF(p)</math> and <math>GF(p^n)</math> - where <math>p</math> is a prime; or smallest integer <math>p</math> such that <math>x^p \equiv 1</math> and so on.</li> <li>3. There are errors in 2.7 Definition 5:[9]. Please correct them.</li> <li>4. In Example 2 it is not explained why Loop: 1 and 2 is forbidden.</li> <li>5. It would be better to explain that after changing the variable <math>y = 1/x</math> the resulting LFSR scheme corresponds to the so-called reciprocal polynomial.</li> <li>6. Please, add conclusion section stating your results and what makes your method better than the others.</li> </ol> | <ol style="list-style-type: none"> <li>1. Indeed, there are errors in figure 6; they have been corrected. The ratings have also been harmonized in both figures 5 and 6.</li> <li>2. The maximal period is denoted by (T) to avoid confusion. Small integer <math>p</math> (2.5 and 2.8) is denoted (t). All corrections have been done in the paper.</li> <li>3. Paragraph 2.7: Corrections have been done.</li> <li>4. Details have been provided: The LFSR loop after two steps (no maximal period)</li> <li>5. This issue has been developed to the point 'Remark'.</li> <li>6. A paragraph is inserted: '5.conclusion'</li> </ol> |



**SDI Review Form 1.6**

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                          |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><u>Minor</u></b> REVISION comments   | <p><b>1. In the reviewer's opinion, the expression of the primitive polynomial <math>f(x)</math> in the form <math>f(x) = x^n + a_0x^{n-1} + a_1x^{n-2} + \dots + a_ix^{n-i} + a_{n-1}</math> instead of the most used form <math>f(x) = x^n + a_{n-1}x^{n-1} + a_{n-2}x^{n-2} + \dots + a_1x^1 + a_0</math> would lead to confusion in the reader.</b></p> <p><b>2. Please edit the whole paper for typing mistakes and wrong wordings. Put spaces after ". ", " ", " ", " : " and so on..</b></p> | <p>1. To avoid confusion, the primitive polynomial (general form) defined in paragraph 2.4 (13), have been adopted in the calculations contained in document.</p> <p>2. After review, the corrections have been made</p> |
| <b><u>Optional/General</u></b> comments | <p><b>In the reviewer's opinion, the paper could have been interesting. The authors should clarify better the main contributions of the work in the conclusion.</b></p>                                                                                                                                                                                                                                                                                                                             | <p>The clarifications are given in parts:</p> <ul style="list-style-type: none"> <li>- ' Abstract '</li> <li>-5. Conclusion</li> </ul>                                                                                   |