Page 1

1. In

    We will note some relation to the PRAM when they ...

    the word *relation* should be pluralized to *relations*

2. In

    When we say PRAM we will mean those ...

    you should pluralize *PRAM* to *PRAMS*

    NATHAN- I DID IT A DIFF WAY

Page 2

1. The second bullet point should be folded into the first. As it is now, you say there are two factors and have three bullets, which is awkward.

Page 3

1. In the problem title

    Connected Components CC

    I think it would be more clear that CC was an acronym if it was surrounded by parentheses.

2. In definition 3, this is nitpicky but the diameter is the length of the longest shortest path, not the path itself. I would correct both the text and the math expression

3. I took a look at the Behnezhad paper, and I believe I understand what they're saying, although if I'm understanding correctly they also mildly abused notation. My understanding is that their runtime is

$$O(\log D + \log \log_{m/n}(n)).$$

    If you apply this to a class of graphs with $D \geq \log^\epsilon n$, then the $\log D$ term dominates, and otherwise the $\log \log$ term does. To avoid the issue, you could strip out the epsilons and just use

$$O(\log D + \log \log_{m/n} n).$$

    If you don't need the specific result anywhere (which I don't think you do) this is what I'd recommend, to avoid confusion.

Page 5

1. In the first paragraph, in

   Ghaffari, Kuhn, Uitto showed a (conditional) lower bound on MIS problem in . . .

   there should be a *the* before *MIS problem*

2. In the first paragraph of 3.3, *result* should be *results*

3. (NOT A CORRECTION) npolylog(n) looks fine

4. In problem 3.4's question, after each *For example* there should be a comma

 Page 6

1. In problem 3.4's question, after each "For example" there should be a comma

2. In the line after theorem 6, there is a failed latex Σ

3. - In the beginning of section 4, point 4, there should be a *the* before *s-Shuffle model.*

4. - (NOT A CORRECTION) change to sentence before definition 4 seems good

 Page 7

1. In section 4.1,

   . . . signals received on that port to determine output of corresponding port

   should have a *the* between *of* and *corresponding.*

2. In definition 5 point 1,

   . . . which define signals that machine u will send to all input of v according to output of u, i.e. machine u will send $\alpha_{u,v}(g(u))$ where $g(u)$ is output of machine u.

   should be *which defines signals that machine u will send to all inputs of v according to the output of u, i.e. machine u will send $\alpha_{u,v}(g(u))$ where $g(u)$ is the output of machine u.*

 Page 8

1. In the proof of theorem 9, in

   For each input x_i, we have a specific machine with polynomial should be defined as follows

   the words *should be* should be removed.

2. In the proof of theorem 9,

   These polynomials has at most $s^0 = 1$ degree

   should be

   These polynomials have degree at most $s^0 = 1$

   (Was not fixed in the corrected version)

3. In the proof of theorem 9, in

   For induction step, lets assume that for all ...

   the word *induction* should be replaced by *the inductive*

4. In the proof of theorem 9, in

   For induction step, lets assume that for all ...

   the word *lets* should be replaced by *we*

 Page 9

1. In definition 8 point 1, you refer to the graph property as both a set of graphs and a quality of a specific graph. I recommend sticking to one, i.e.

   A monotone graph property is a property of a graph such that when adding more edges to the graph, the property still holds.

2. In definition 8 point 1, I think you should use *connectedness* instead of *connectivity* to refer to the property that a graph is connected. This occurs later in this document as well.

 Page 10

1. In the output of problem 5.2, in

   At the end of the computation ... at the end

   the second *at the end* should be removed. (Was not fixed in the corrected version)1G