Title:

Student Name:_________________________________________________________________

**Title Page (5 Pts.):**
5: Title and rubric present
3: Only title present
0: Neither title and rubric

**Total:**

**Objective (5 Pts.):**
5: Concise statement (quantify objective)
3: No numerical value in statement
1: No relevant information
0: Does not exist or copy/pasted from template

**Total:**

**Background (5 Pts.):**
5: 1 paragraph, ~3-4 sentences, related to solar power and its applications
3: 1 paragraph, ~1-2 sentences
1: No relevant information
0: Does not exist or copy/pasted from template

**Total:**

**Discussion & Results (30 Pts./35 Pts.):**

Assumptions (5 Pts.):
5: Stated in one place, reasonable, explained/justified; includes the working fluid being used.
4: Stated in one place, reasonable, not explained
3: Stated in one place, unreasonable or incomplete
2: Scattered or very incomplete
0: No assumptions stated

**Total:**

Description of Schematic (5 Pts.):
5: All components named, relevant appendix cited
4: All components named, no citation of appendix
3: Incomplete description
2: Only appendix cited, no description
0: Does not exist or copy/pasted from template

**Total:**

Description of Important Equations (5 Pts.):
5: Important concepts and relevant equations explained, appendix cited
4: Some description, appendix cited
3: No description but cited appendix or vice versa
0: Does not exist or copy/pasted from template

**Total:**

Design Process/Methods (5 Pts.):
5: Thorough description of problem and method of solving (5+ sentences)
4: Good description
3: Poor or unclear descriptions
2: Some descriptions but no rationale provided
1: Inaccurate description of problem and methods
0: Does not exist or copy/pasted from template

**Total:**

Results:

Part 2a (10 Pts.):  
10: Final calculated η affects and relevant discussion
8: Correct steps, incorrect η affects
6: Some minor mistakes in process
4: Major mistakes/incomplete
2: Very incomplete
0: Does not exist or copy/pasted from template

**Total:**

Part 2b (5 Pts.):  
5: Correct calculations and all steps, clearly defined “best” power plant design
4: Mostly correct calculations, complete
3: Mostly correct calculations, incomplete
2: Very incomplete
1: Scattered
0: Does not exist or copy/pasted from template

**Total:**

**Conclusion (5 Pts.):**
5: Brief restatement of results from each part
3: Poor or incomplete restatement
0: Does not exist or copy/pasted from template

**Total:**

**Appendix: Schematic (10 Pts.):**
+3: Schematic included
+2: Not drawn in pencil
+1: Neatness
0: Does not exist or copy/pasted from template

**Total:**

**Appendix: Sample Cales / Basic Equations (10 Pts.):**
+5: Calculations section included (one sample calc. for each step)
+3: Complete (partial points may be awarded)
0: Does not exist or copy/pasted from template

**Total:**

**Appendix: Plot(s) (10 Pts./5 Pts.):**
+2: P-v diagrams (can be drawn by hand)
+2: T-s diagram (can be drawn by hand)
+1: Heliotat efficiency
+1: Effective solar efficiency
+1: Qw
+1: Wnet
+1: Cost
+1: Wnet/Cost

Note: Only the first two plots are relevant to students who chose part 2a, in which case they will be worth 2.5 points each, and the remaining 5 points have been allocated to the

**Total:**

**Appendix: References (5 Pts.):**
5: Three or more valid references
4: Two valid references
3: One valid reference
0: No references

**Total:**

**Formatting (5 Pts.):**
+1: Visually appealing (typed, neat handwriting, etc.)
+1: Well-organized
+1: Appendices labeled appropriately
+1: Sections labeled appropriately
+1: Name

**Total:**

**Total:** 90