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MET 350

Test Reflection 3

1) How and why the test demonstrates your work toward one, or more of the course learning objectives? Be specific on the course objectives you decide to mention.

   - Apply Rankine Cycle with Superheating, reheating, and regeneration to steam plants. In question one we are asked to evaluate a Rankine Regeneration Cycle.
   - Develop a clear understanding of the basic operation of combined gas turbines, vapor cycles, co-generation and binary vapor cycles. The system worked on in the second problem was an example of a cogeneration cycle.

2) How your test compares against the available solution. Ste the mistakes you made and what you will do next time to avoid making same mistakes. Please point out exactly where you made the mistake, say why you made the mistake, and how you should have done it. If you were taking this test again, what advice would you give yourself to ensure you had a successful test?

   My calculations for question one were correct. My calculated W_{net} and thermal efficiency differed from the solution slightly but was only a negligible amount. Working through the states, I used "x" instead of "y" which was a mistake.

   For problem two, I was not clear on what state I was solving for. It was a bit unorganized which led to calculations being wrong. If I was take the test again, I would make sure I have a clear vision on what I was solving for.

3) What you grade should be. Base it on the writing rubric provided in the test and correctness of the solution. What are your strengths and weaknesses of your test?

PROBLEM 1)

P-v and T-s diagrams	1/14 of 2/14
State calculations (7 of them)	7/14 of 7 /14
Thermal efficiency (need "y" – fraction to OFWH)	1/14 of 4/14
Correct final results?	1/14 of 1/14
TOTAL	10/14

PROBLEM 2)

P-v and T-s diagrams	1/10 of 2/10

State calculations (4 of them)	1/10 of 4/10
Qin, Wnet, Qout, thermal efficiency	2/10 of 2/10
Qprocess, Utilization factor (is equal to therm eff)	0.5/10 of 1/10
Correct final results?	0/10 of 1/10
TOTAL	4.5/10

FINAL GRADE:

(90/2) * (10/14+/10) = 52.4%

4) Discussion

Test three was the easiest of the test this semester. From the first question, finding the state calculations was a bit tedious. I was required to use the thermal efficiency equation to solve for the enthalpy at multiple stages. Interpolating was apart of the process as well for the few values that were not expressed directly. Once all the unknown variables were found I was able to each step of the problem and solve for the required term. Question two was similar to the first as far finding the enthalpy. There were less states to find so it did not require the same amount of interpolation.