Nathanael Yapnayon TEST REFLECTION MET 330

1) How and why the test demonstrates your work toward one, or more, of the course learning objectives.

It demonstrates what I learned from the lectures and homework. Learning about how to use Bernoulli's equation to how find the flow rate. Not all the tasks were completed correctly.

Purpose

This section was done well. Not all the questions needed to repeat the purpose regarding the whole test. Each task was paraphrased to describe what was needed to complete the test. Setting up the purpose was explained well. (0.5)

Drawing & Diagrams

The diagram for the whole test was drawn. Certain tasks receive the drawings and diagrams to figure out the task presented. Some diagrams were completed but others were not fully completed. (.8)

Sources

Correctly gave the source used for the test. (1.0)

Data and Variables

At best, all items presented were based on knowledge of given information from the test. Slope, specific weight of water, and gravity are few examples that were specified. (1.0)

Design Consideration

Explained at best what the company wanted from this project. Each consideration was considered when working on the test. (0.5)

Materials

It was a very simple list of things that were seen from the instructions, drawing and diagrams. (0.5)

Procedure

When approaching each task, some tasks would have either detailed processes on how to complete the problem. Other tasks would be written as if the problem was like a homework problem. No real details to these tasks even with its calculations presented. (1.0)

Calculations

All tasks have at least some equation that relates to the problem. Not everything was done correctly. Some equations were missing for tasks (.8)

Summary

It describes the design and each task tried to do. Does not describe the future implications about this project. (0.3)

Analysis

No analysis section was made for this test. (0)

Total = 6.4 = 64%

Tasks

a) Compute Pump power

i. This section does not have hydraulic radius and area. (0)

ii. Pump head - This section selected the pipe diameter. It was 3 in pipe (80 mm Sch 40 pipe) Diameter was shown based on Table F.1 (1.0)

Bernoulli's Equation – Was able to find ha but did have the correct value result (0.5)

Energy losses -Had the right equation but did not have the right values (0.5)

iii. Pump power – equation was used but it did not have the correct values. (0.5)

b) Bouy to open gate

a. Found the resultant force but not exactly the direction or magnitude of the gate (0.2)

b. Did not solve for the moment (0)

c. Expressed how an object should be stable. Did have the right idea but not the right values. (0.5)

c) Manometer Reading

a. It does use the gamma*h procedure. (0)

b. Did not solve for h using geometry relation (0)

d) Pipe-Elbow forces

a. Free body diagram was made but had the wrong direction for x and y. (0.5)

b. Tried to find the force for the X but did not have correct values. (0.3)

c. Tried to find the force for the Y but did not have correct values. (0.3)

e) Flow-nozzle flowmeter pressure drop

a. Found the right equation and A1/A2 (1)

b. Found the right equation for the change in pressure. Did not have the right values when getting the result (.5)

f) Water hammer & cavitation

a. Did no compute the warm hammer despite having the equation to find thickness. (.1)

b. Has found the equation for cavitation. Did not implement properly despite having the equation (.5)

g) Drag Force on object

This task was not worked on. (0)

If I were to take this test again, I would not panic now knowing what to do. I failed to not ask questions because I wasn't sure where I was going. I genuinely looked at the book and made sure if I had the correct equations or not. I spent literally 4 days just looking over the test with my book in hand. I couldn't even figure out what Q value was on the test. All of this was overthinking on my part. I wasn't relaxed when I was working the test. I made the test harder than it is.

Most of these concepts would help do better on my semester project. It helps know that the test gives me an idea on what I can improve upon with the next test. It's important to just understand my failure and mistakes. It hurts to think I scored very low on this test. It is what it is. At least next time, I can be prepared and be a lot more confident with the next test.

3) Final grade: 6.4+ (80)*(2/21 + 0.7/14 + 0/14 + 1.1/21 + 1.5/14 + .6/21 + 0/21) = 33

I understood the instructions and did the best I could with the information I had. I written down was given to me. Applied that to the values I was given I had. I was able to draw the diagrams needed for certain tasks. The weakness I could say not organizing myself when solving the problems. It's an issue and I need to fix it as soon as possible. I do have trouble reading the questions and trying to figure out what was given to me. Sometimes I end up making a wild guess and try solve it myself.

Engineers can apply most these concepts when they work on pipe related systems. All of this is was meant understand the process of reaffirming results and simulating those results.

In the end, all I can do is learn from my mistakes and do better next test.