(1) Hypotheses

Ho: W=150 H: U, >150

2 Test the hypotheses of $\alpha = 0.05$ n = 4 $\sigma = 3$ $\hat{y} = 148.75$

30 = 4 - 20 = 148.75 - 150 = -0.833

d = 0.05 = 957. => [-1.96, 1.96] Since, -0.833 lies in the large, do not seject

gen ctt gæ 95.1. ct : Ut 1.96 og

CT = 148.75 ± 1.96 (3)

= 145.81, 151.69

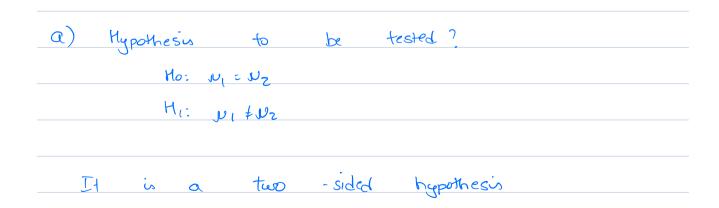
1. Two machines are used for filling plastic bottles with a net volume of 16.0 ounces. The filling processes can be assumed to be normal, with standard deviations of σ_1 =0.015 and σ_2 =0.018. The quality engineering department suspects that both machines fill to the same net volume, whether or not this volume is 16.0 ounces. An experiment is performed by taking a random sample from the output of each machine. (2+4+2 marks)

Machine 1		Machine 2	
16.03	16.01	16.02	16.03
16.04	15.96	15.97	16.04
16.05	15.98	15.96	16.02
16.05	16.02	16.01	16.01
16.02	15.99	15.99	16.00

- a. State the hypotheses that should be tested in this experiment. Will the alternate hypothesis be one-sided or two-sided?
- b. Test these hypotheses using α =0.05 and state if we reject or not the null hypothesis. You make use of the table below.

Desired Confidence Interval	Z-score	
90%	1.645	
95%	1.96	
99%	2.567	

c. Find a 95 percent confidence interval on the difference in mean fill volume for the two machines.



b) Lest the hypothesis at
$$\alpha = 0.00^{\circ}$$
?

$$\int_{1}^{\infty} = 16.03 + 16.04 + 16.07 + 16.07 + 16.07 + 16.01 + 16.02 + 16.01 + 16.02 + 16.01 + 16.02$$

$$= 16.015$$

$$\frac{\sqrt{3}}{3} = 16.015$$

$$\frac{\sqrt{3}}{3} = 16.015$$

$$\frac{\sqrt{3}}{3} = 16.005$$

$$\frac{\sqrt{3}}{3} =$$

 The viscosity of a liquid detergent is supposed to average 800 centistokes at 25°C. A random sample of 16 batches of detergent is collected, and the average viscosity is 812. Suppose we know that the standard deviation of viscosity is σ=25 centistokes. State the hypotheses that should be tested. Test these hypotheses using α=0.05. What do you conclude on the null hypotheses? Find a 95 percent confidence interval on the mean. [1+2+2 marks] 			
a.) Hypotheses: 10: U=800 11: U\$800			
N₁: .U ≠ 200			
6) Test hypothesis at < =0.05			
20= <u>2</u> - <u>no</u> = 812-800 - 1.92			
20 = 2- No = 815-800 = 1.95			
7 0.025 = 1.96			
Do not reget			
c) Find 95% consider ce interval			

y- 242 5 5 5 4 2 5 812 - 1.96 x 25 C D C 812 + 1.96 x 25 Ji6 812-12.25 SN S 812 + 12.25 799.75 SW S 824.25