Date____

Tutorial-5

Hyponesis testing

40 : P=0.7

91.

H1 P #0.7

X = 0.10

Test stat: Binomial vou X with p=0.7 4 N=15

X=8 4 nPo= 15x0.7=10.5

P=2P (X68 & p=0.7)

= 2 \(\frac{1}{2} \) \(\lambda \) \(\lamb

= 2 x0'1311

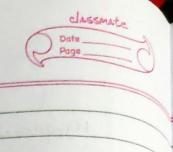
= 0.2622

P>0.10

.. p >x

Do not reject no.

... There is is not enough reason to doubt he builders claim.



Q2. Ho: p=0.8

M: P>0.6

X = 0.05 aiven, x=70, n=100, p=0.6

Z= 2-NPO VnP080

2 = 2.04

P = P (z > 2.04)

P = 0.0207.

PCX

.. New drug is superior.

Q3. P, -> proportion of Mumbai voters

P2 -> " " surrounding residents

P, = 120 -0.6

P2 = 240 = 0.48

Pp: 120+240 = 0.514

d = 0.05

No: PICPZ

M1: P1>P2

 $z = \hat{p}, -\hat{p}_2$ $\hat{p}_{\hat{p}}(1-\hat{p}_{\hat{p}})(1+1)$

2 = 2.869

P=P(2>2.869) =0.0044

PCX -> Reject No

te

Proportion of numbai favouring proposal is higher

qua) 40: p=0.26

NI : P> 0.20.

critical negion is night tail

(b) No: M=3

M,: 4+3

Critical region is born tails.

(c) No : pe = 0.15

N, : P < 0:15

Critical region is left tail.

(d) No: 4= 500

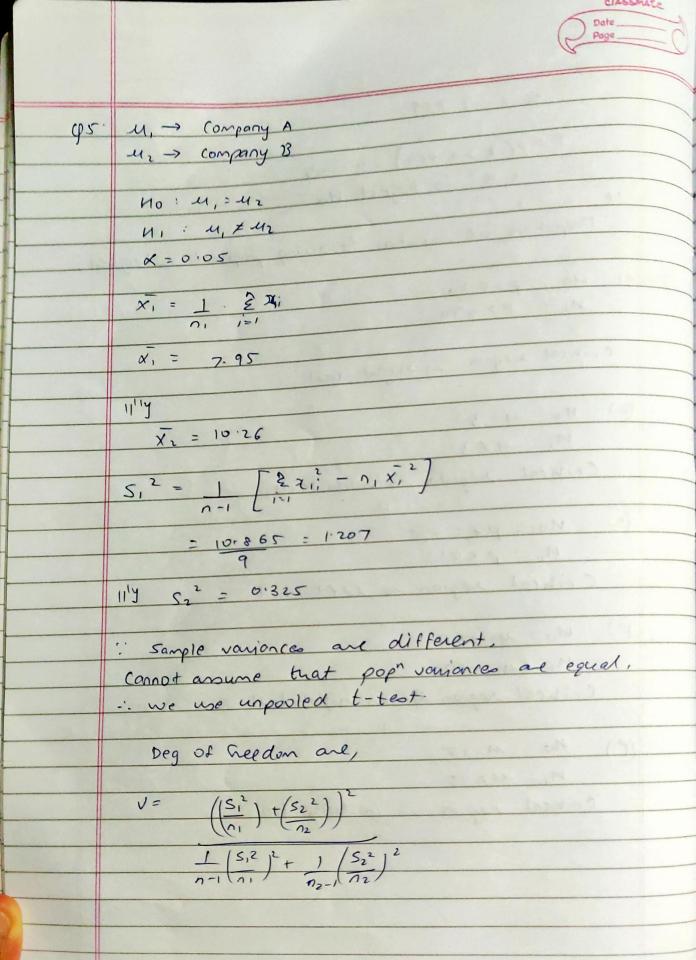
N1: M >500

Critical region is in right tail.

(P) No: M=15

M1: M7 15

critical region is in both tails.



$$T = x_1 - x_2 - (u_1 - u_2)$$

$$\int \frac{5_1^2 + 5_2^2}{n_1}$$

Also, ender nell hyponesis el, m2 =0.

$$\frac{7.95 - 10.26}{1.207 + 0.325}$$

1+1 = 5.90.

p.val <0.001

ie P < \ .. we reject null hypothesis.