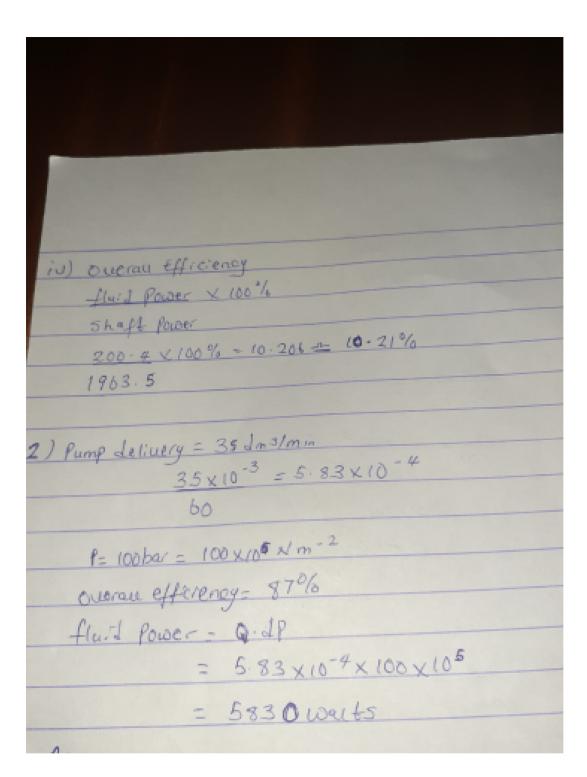
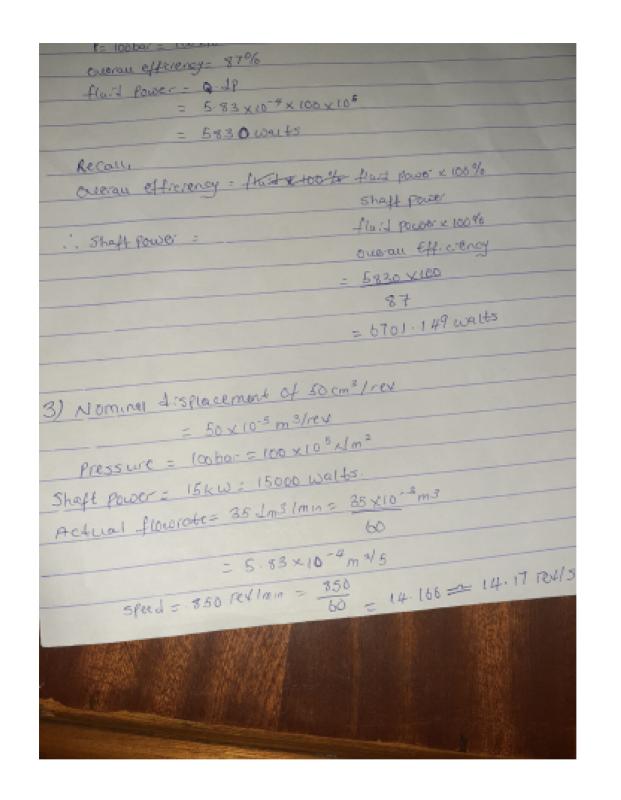
Image

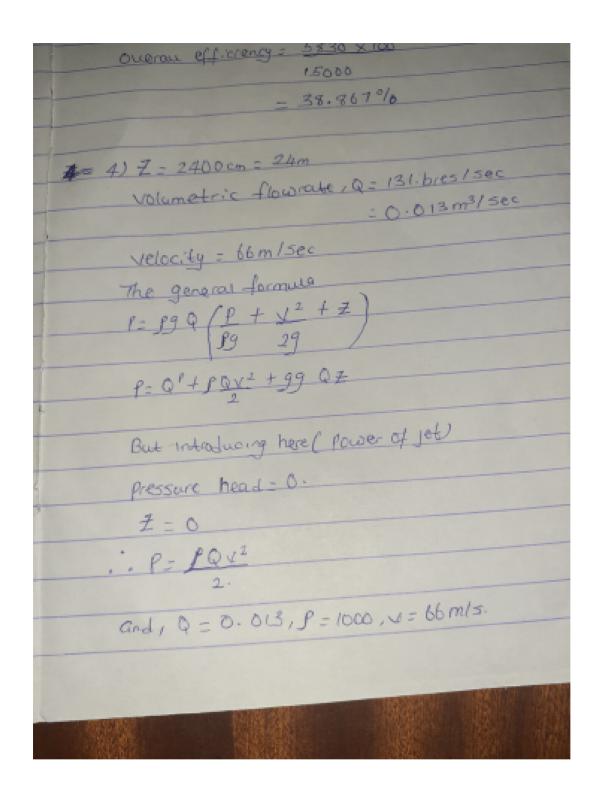
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DRICHUKWY Madogre Sylvestor
 computer Engineering
  18 LEng 02 1 073
  Fluid mechanies
1) Real flowrate = 10 dm 3 mm T = 12.5 No
        = 10×10-3 = 1.67×10-4 m 3/s.
   Pressure = 12 box = 12 x105 N/m
   Speed = 1500 reviews = 1.500 my = 25 revises
   Nominal displacement = 10 cm3 = 1410 5 m3/mos (ev-
   I dear flowrate = Nominal & isplacement x speed
                = 1×10-8 m3 × 25 feet/540
              = 2.5 x 10 -4 m3/sec
1) volumetric efficiency = Real flowerate x 100%
                            Ideal flowrate
        = 1-67×10-4-×100%
          2.5 ×10-4
        = 66.8 %
```

= 2.5 × 10-4 m3/sec i) volumetric efficiency = Real flowards x 100% Ideal flowrate = 1-67 × 10-4-× 100% 2.5 × 10-4 = 66.8 % ii) fluit power - O.dp. = 1.67 × 10-4 × 12 × 105 = 200.4 welts. iii) Shaft Power: 7. w W= 2TN= 2×TXN = 2 x \(\bar{\cap}\) x 25. = 157.0796 = 157.08 . . Shaff Power = 12.5 x 157.08 = 1963.5 watts

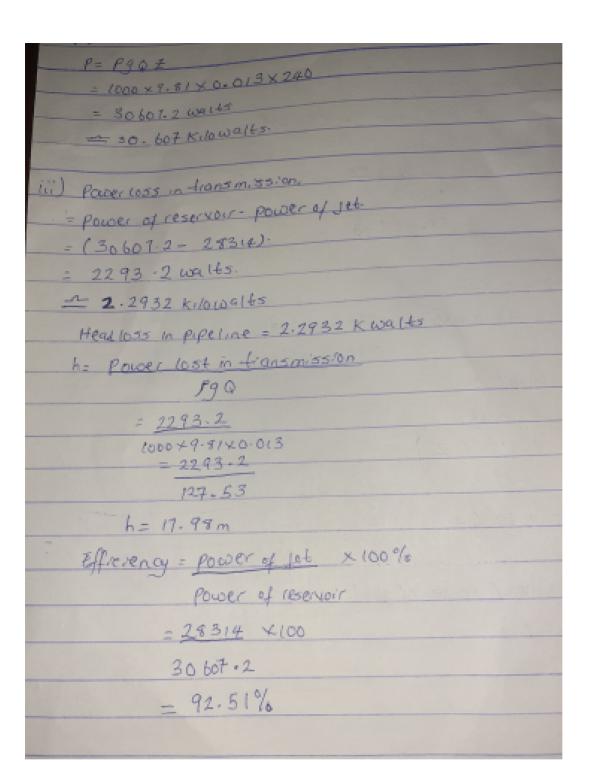




"Ideal flowrote = Morninal displacement x speed = 50×10-6 m3/rec × 14-17 rex/5 = 7.085 × 10.4 m3/5. i Volumetric efficiency = Real flowrate x 100% I down flow rate = 5.83 × 10.4 × 100% 7.085×10.4 = 82. 19% ii fluid power = Q. dp = 5.83 × 10.4 × 100 × 105 = 5830 walts Overau efficiency = 5830 × 100 15000 - 38.867%



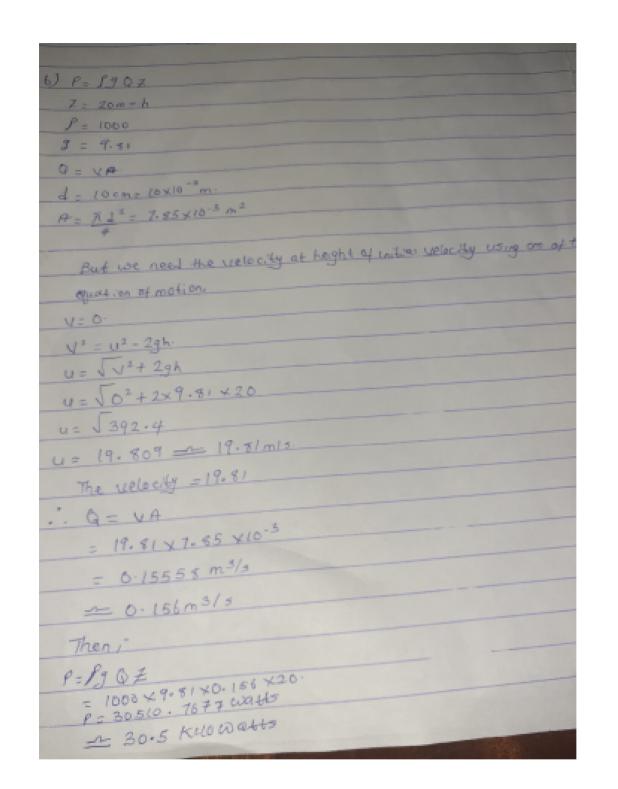
P= 1000 × 0.013 × (66)2 P= 28314 watts = 28. 314 Kills watts ii) Power supplied from reservoir At atmospheric pressure; P = 0 and V = 0. P= P90 = = (000 × 9.81 × 0.013 × 240 = 30607.2 walts = 30. 607 Kilowalts.



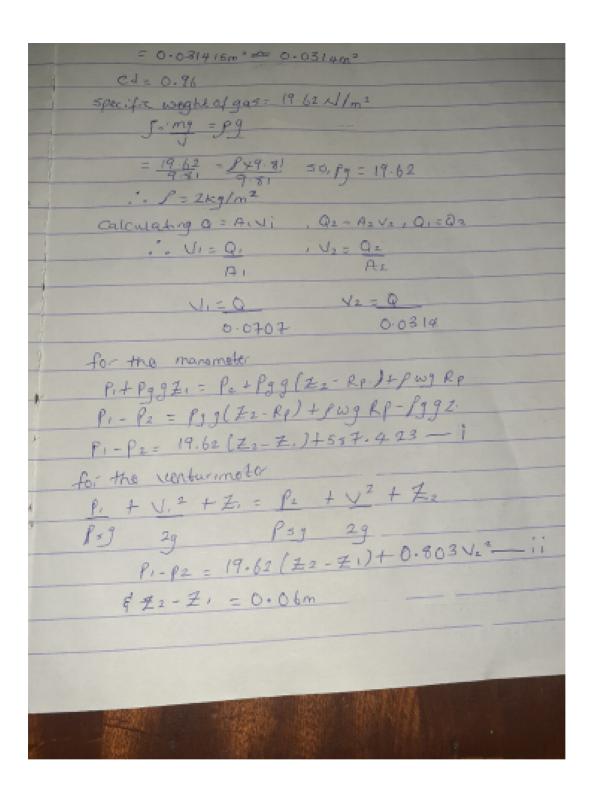
5 59 0 01 = 0.89 Z = 80,000 cm = 300m Q = 220 (/sec = 0.22 m3/sec V = Im/sec. introducing, Z= 0, Pressure = 0. i P = PQV2 but, 59 = 0.89 59 = x . x = 0.89 x (000 oc= 890 · . P= x= 890 P= 890×0.22×(7)2 P=4797.1 waits

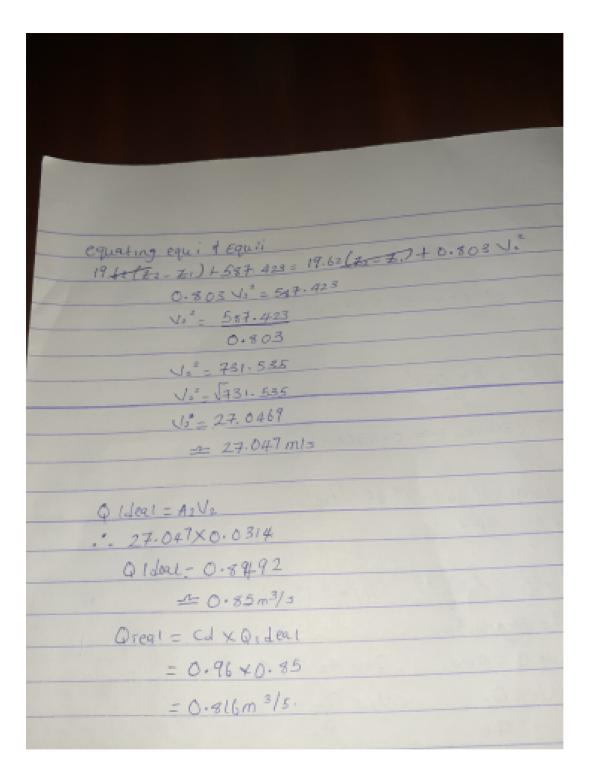
ii) power suppred from reservoir P= Pg 109 QZ P= 890 × 9.81 × 0.22 × 380. P= 576239.4 Walts. - 576.2394 Kilowatts iii) Power loss in transmission = power reservoir - power of Jet = (576.239.4-4.7971) Kilo walt = 571442.3 walts = 571.4423 Kilowalts Head used to overcome losses = 571442.3 390 × 9.81 ×6-22 = 297.51m

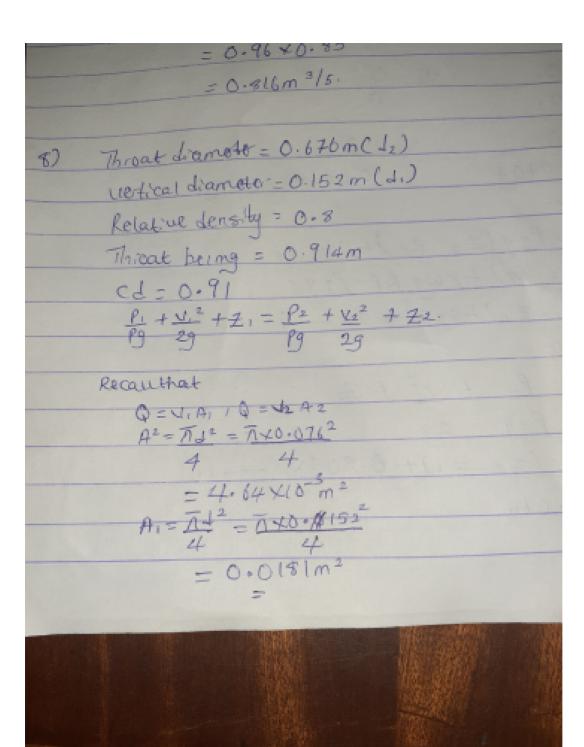
iv) Efficiency = Powerspet x 100 % Power of reservoir 5 4797.1 × 100% 8714423 = 0.83% 6) P= 19QZ Z = 20m = h P = 1000 2 = 9.81 Q = VA d = (0cm = lox10 -2 m. A= 12= 7.85×10-3 m2



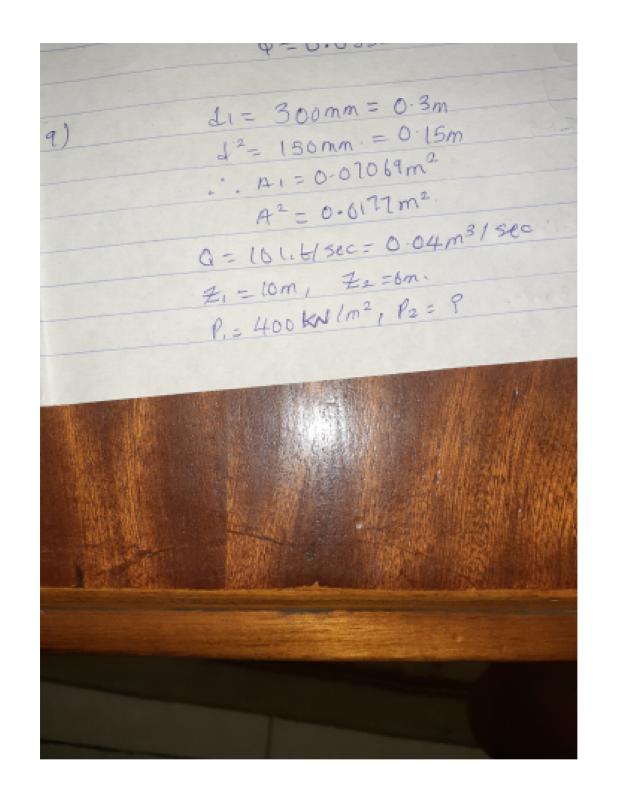
7) di= 0.3m A1 = 14 = 1x0.32 = 0.07068m2 == 0.0707m2 2 = 0-2m $A^2 = \overline{\Lambda} 4^2 = \overline{\Lambda} \times 0.2^2$ = 0.031415m2 = 0.0314m2 Cd = 0.96 specific weight of gas = 19.62 N/m2 J='mg = pg = 19.62 = 8x9.81 50, pg = 19.62 .. S = 2kg/m2

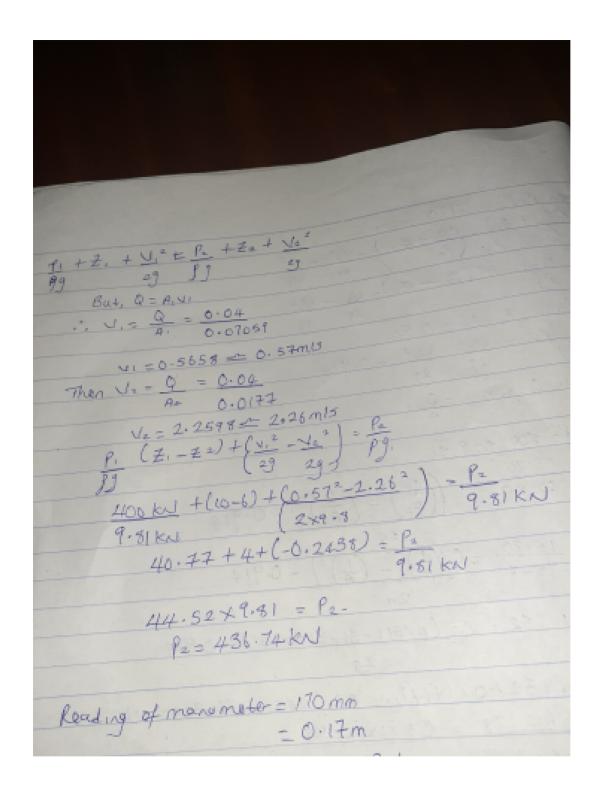






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i) Then P.-Pz = 15170
    Recour, Z, -Z2 = 0.914
    P.-P= = V22 - V,2 -0.914
    Recall, 0= UA, V= Q.
        8= 800,9=9.81
           \frac{15170}{500 \times 9.51} = \left( \left( \frac{Q}{A^2} \right)^2 - \left( \frac{Q}{A} \right)^2 \right) = 0.914
           1.952 = 02 (48516-56-3052-41) - 0.914
          (1.932+0.1914) eg = 0° (48516.36-3052-41)
            56.3678 = 02 45468 85
             45463.95 45463.95
              62 - 1.24 ×10-3
              Q= VI.24×10-3
                Q=0.0352m3/s
```





44.52 79.81 = P2-P2= 436.74 KN Reading of monometer = 170 mm - 0.17m 10 specific gravity of mercury = 13.6
specific gravity of sequente = 1.026 y= 0.17m for h=y (5hl -1) 0-17 (13.6 -1) = 0.17412.255 -2.0834m. Recall U= Jagh U=12×9.81×2-0834 V= V40.87 V= 6.393 mls.