10 Oh
Add I
ND = NCE - (EC-EE)/KT
E. C
$\frac{E}{E} = \frac{1}{2} \sqrt{N}$
=) 00 = VT lu [Nc] = 0.242eV
$\frac{1}{2}$
1/1c= 2.8 X/0 au-3
$\frac{1}{10000000000000000000000000000000000$
= 4.252 V
4
$\phi_{B0} \rightarrow given = 0.55$
() () () () () () () () () ()
$=)$ $\phi m = 0.55 + 4.01$
= 4.56V - I mark
Now $V_{bi} = \phi m - \phi s = 4.56 - 4.252$
= 0.308V
L mask
6) Now if No = 3 × 1016
NE 2024 DM & H dont Chamas
NE 2024 TWTFSS 1 2 BROOLLO REWAINS
1 2 4 5 6 7 8 9 11 12 13 14 15 16 18 19 20 21 22 23 25 26 27 28 29 30 QS Changes
18 19 20 21 22 23 25 26 27 28 29 30
43 000

- (EL-EF) IKT
$N_{0} = N_{c}e$
$= 0.1778 \text{ eV} = 2.8 \times 10^{-3} \times \text{ m} \left(\frac{2.8 \times 10^{-9}}{3 \times 10^{-9}} \right)$
$\frac{3}{3}$
= 0.1776 eV
$90s = \chi + g(Ec - EP)$
00 =) Os = 4.01eV + 0.177eV
p = p = 4.01 eV + 0.177 eV
\$5 = 4.187V - Imark
- William And Add add
\Rightarrow $V_{bi} = \phi_{M} - \phi_{S} = 4.56 - 4.187$
- mass
=) By doping more donois -> Vsi
in weaked
Change in 15: = 0.373 - 0.308
= 0.065V
L mark
- maxic