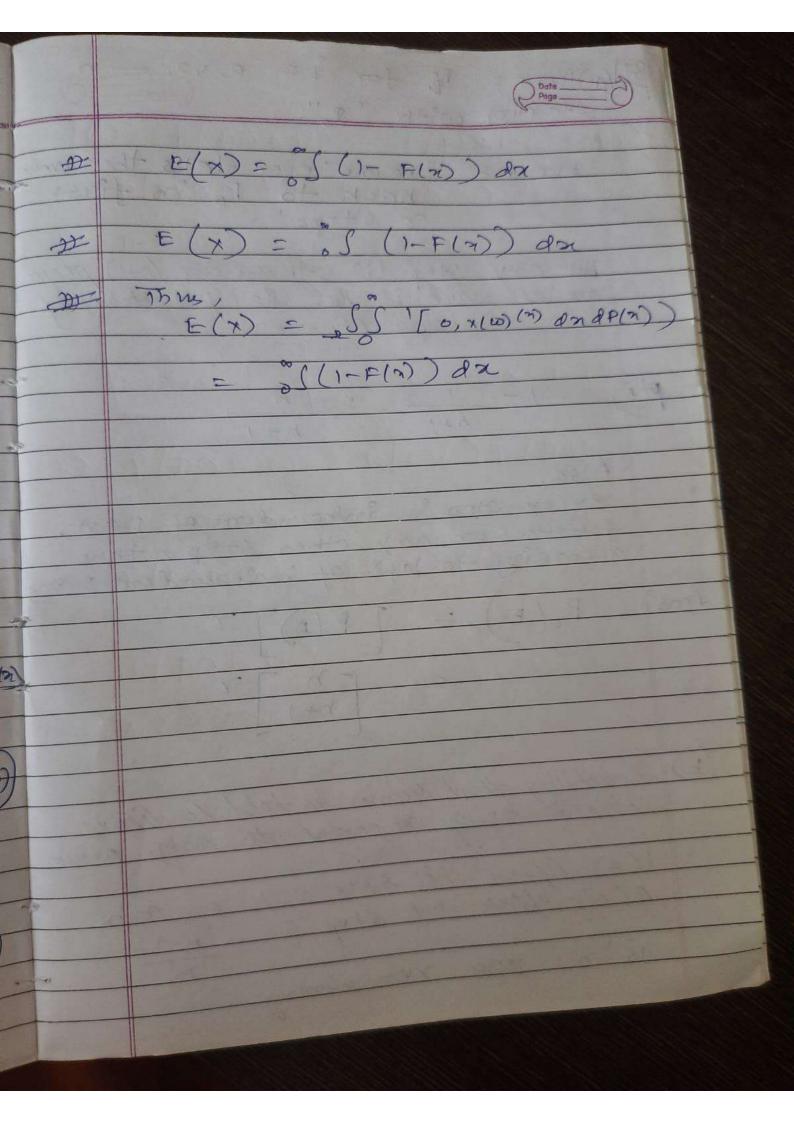
810 Indicator func and Lubin's Theorem To show : E[x] = 05 [1- F(x)] dx By showing is stop (w) ax ap(w) EX = 0 [1- F(2)] dx X/w) = [1[0, X/w)](x)dx Taking expectation value of both side E[x(w)] = E | of 1[0, N(w)](n)da Applying "Fubini's Theorem" 1= [x] = [v, x(v)(n) dadm $=\int_{0}^{\infty}$ 2) [0, x(w) (n) dP(n) = P(X m) Now, = 1- F(x)



St/a People = Pé, for 2 = 0, 12 Date Page 3 tarting with "Po" Event = "no one ever tells the summer back to Po in first At any step 10 there are (b+1) people one of which is Po. So probability of 1-1 2 h h+1 h+1 Every step is independent of post, ferfuer or any other Step, the according to law of independent event Anso $P_{r}(E) = P(D)$ = [h] 7 h+) (b) Phobability that Mymor is told to times without being repeated to any person P(E) After 187 879 = 1 = m/2 P(E) after 2nd 5tep = n-1 18 'n-1' vou remaining

Thus after PLE) 8 (n-0) (n-1) (m-x) when Each Step tells to broup of In' random People ent n(n-1)_ P(E) = (mCN) (n+1 CN) No one is told 2800

