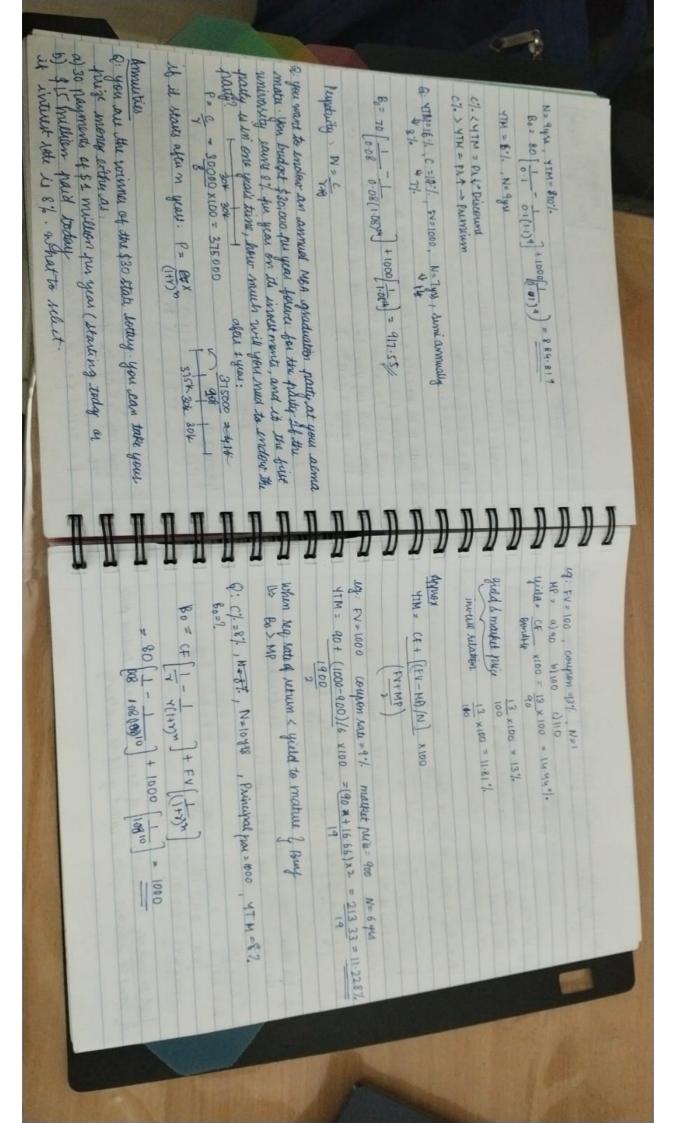
Po = 17200 = 79.26 pu Man et the end of their year of \$860 million. Tit an plant to pay out 50% of the shows. If their earnings are expected to grow by 75%, for year and prayout rate semain constant, determine titles share frute support posts powers assuming on equity cost of capital of 10% a. Than industries has 217 million shows outstanding lexiect earning P& = DN = 4.5 = 4.5 x100 264.28 2 50 ×860 (10-7.5)% = 430 ×100 =17200 Q: Consolicionad Edison, Inc. is a signified notify company that Po - Divy To iniciate Po: Dirt, red oft of sapitul is 6% and dividends are expected to grow by 2.11 for year in the future, estimate the value of the company's service the New York City area. Suppose that them to tract of 2.60 a: Suppose some sould suit its divident payout vate of 75% for the Po = 2.6, Ye= 6/1., 8=21. Po = Div. = 2.6 = 2.6 ×100 = 65 Changein earning = Now invest * Return on NI News invest = & Earning x R.P. (Returnation now) Divedend arisks investment: Change in earning = earning x Rit R x Reta NI / earning Viv, = Earnings foreseeable future and use the retained carnings to openia n DI Wide = EPSX PPB Natu = 46 New dividint = 6xDP/0 = 6x3/4 = 4.5 16 = Dir yill +9 = 6/60+0 = 0.1 = 10% 9 = Ret Roth x Permin an NI = 35.0/. x 12.6 = 3.6 emmore show outstanding x Dividunt Payout Rate g = RR x Rutumtion on N.T. > re=Div1 + 8 - capital gour sate Deliver was the same of the sa

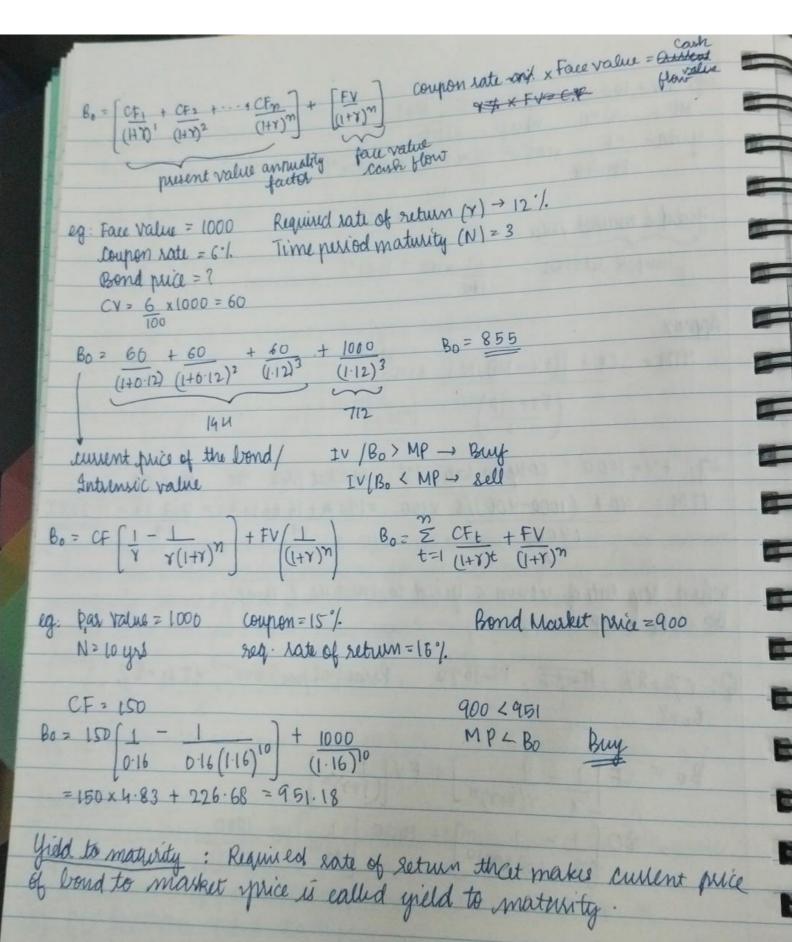
Dividend Discount Model
P = Div, + Div2 ++ D9VN + PN
$\frac{P_0 = \text{Div}_1 + \text{Div}_2 ++ \text{Div}_N + \frac{P_N}{(1+r_E)^N}$ $1+r_E = \frac{1+r_E}{1+r_E} 1$
The price of the stock is equal to the present
The price of the stock is equal to the present value of the expected future dividends it will pay
Constant dividend growth
dividend gron at constant rate q.
~ D, + Q
Po = Div, E= Po 1 (Child)
Po = Div, E = Po + 9 TE - 9 Dividend gain rate yield
yield
B Consolidated Edison, Inc is a regulated utility
the to samue of the New York City Area
company that services the New York City Area
Suppose con Edison plans to pay 9
Suppose con Edison plans to pay \$ 2.60 per share in dividends in the coming year. If its equity cost of capital is 6% and
If its equity cost of capital 18 6% and
dividends are expected to forthe sy
per year in the puture restimate the val
of con Edison's stock
07 CON COUSON 5 20 6 5 65 CON
P = 2.60 = 2.6 = 6500
0.06-0.02 0.04

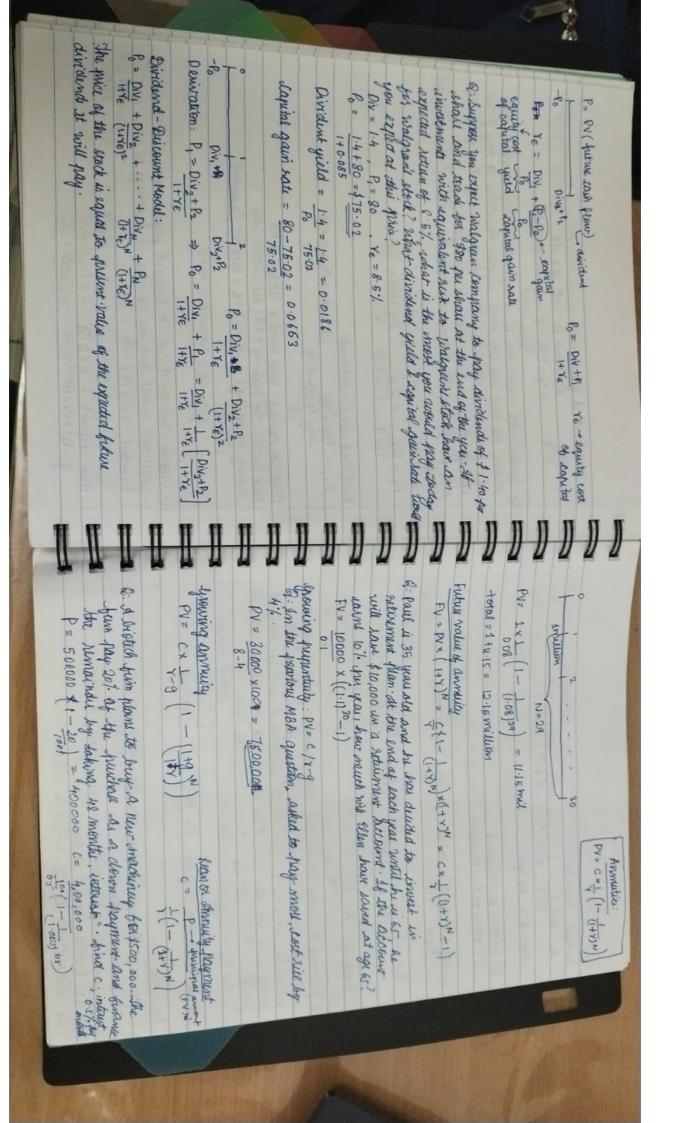
Lonstant Dividend Growth Model: Po = Div, 20 microuse Po: DIVT, TEV 191 > re=Div, + g → capital gain rate -Parriame yield Q: Consolicated Edion, Inc. is a regulated stilling company that Services the New york City area. Suppose they plans to pay of 2:60 The shale in dividends in the coming year. If its equity cost of Lapital is 6%. and dividends are expected to grow by 2 1 he year in the future, estimate the value of the company's Div = 2.6, Ye = 6%, g=2%. Po = Div1 = 2.6 = 2.6 × 100 = 65 0.06-0.02 4 Divedend versus investment: Share Outstanding & Dirident Payout Rate Div, = Earnings Changein earning = New invest * Return on NI New invest = & Earning x RR (Returntion rote) Change in laining 2 laining x Ret R x Retor NI / earning laring g = RR x Returntion on NJ a: Suppose crane could cut its dividend payout rate of 75% for the foreselable future and use the retained earnings to open a n. Divident = EPS x PP6 rate = \$6 divident P/0=25% Ye = Div yield+9 = 6/60+0=0.11 = 10% RP = 25% New divident = 6 x DP/0 = 6 x 3/4 = 4.5 9 = Ret Rate x Return on NI = 25.9/. x 12.6 = 3%



Bond discount C% < YTM = Po I Discount C% 7 YTM - BPA Pranium YTM = 16%. co/a = 14% Seni annually C > So YTM = 8%. C% = 7% N= 14ges Bo = 917.5 Perpetrity P= E/8 = 30000 = 375,000 Now, we the parety is end of zyrs

{ of 1 } 2 3 4 3,75,000 (using previous) Convert to present value by dividing 3,75,000 = 3,75,000





& Suppose you expect Walgreen Company to pay dividends of \$1.40 per share and trade for \$80 per share at the end of the year o If investments with equivalent risk to Wilgren Stock have an expected return of 8.5%, what Us the most you would pay today for Walgreen & what dividend yield & capital gain rate would you expect $P_0 = \frac{1.40 + P_1}{(1+Y_e)}$ = 1.40 + 80 = 75.02 1.085 Yild = Div_ = 1.40 - 0.0187 Po 75.02 Capital gain rate = P, - Po = 4.98 = 0.0663 Multi-Year investor - Po Piv2 + P2 Po = (Div, +2) 1+ re (1+ re)2

Istan Industries has 217 million shaels outstanding and expects earnings at their end of this year of \$860 million. Titom play to pay out 50% of its earnings in total, paying 30% as a dividend and using 20% to repurchase shares. If & Titan's earning are expected to grow by 7.5% per year and there payout rates remain constant, determine Titan's share price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of the price assuming an equity cost of capital of 10% of 100 of 10

c % = 8% N = 10 yes Principal = 1000 YTM = 8% B - 80 Dall (198)10 0.08 = 1000 YTM = 10%, + 1000 Bo = 80 1 -1 0.1 0.1(1.1)9 2884.81 C% LYTM - Bond price & N= 10 yes Pro Value 21000 Caupon = 15% reg. rate of r = 160/6
Bond market Price = 2900 150 0-16 0-16 (1-16) to + 1000 1 (1016) 10 725 + 227 952. no = 13/ coupon 2 12%. Bond Merchet P z 960 0-13 0-13(1-13)0 + 1000 65 | + 295. - 946

interest rate = 10% 100 Res in one year - 909 today

PV = 100 + (100/101) = 100.90.91 = 190.91 NAP it interest rate is \$5%. 5/2%. a) 195.23 6) 189.28 FV - maturity Time -> 2 Compon rate -> 8 $PV = CF_1 + CF_2 + FV$ (1+8) (1+8) (1+8)- Price of Bond.

Annuites.

Cxy (1-1) You can take the prize money as

(a) 30 payments of \$1 million per year (starting today)

(b) \$15 mil. paid today " If the Interest cate is 8%, which option should you take $PV = 1 \times \frac{1}{0.08} \left(\frac{1 - 1}{(1608)^{29}} \right)$ = 11.15 mil 11.13 mil + 1 mil = 12.15 mil = Future value of an annuity

FV = CX ((1+8) N-1) Q. Paul is 35 ye old. He decided to invest in retirement plan, At End of each year until he is 65, he will save 10,000 of in a retirement account The account earns 10% per year, how much will the have saved at age 65%

Dividend versus investment DAVE = Easnings + & Dividend Payout Rate + Shases Dutstanding + F A in earning = New invest. * Return on NI

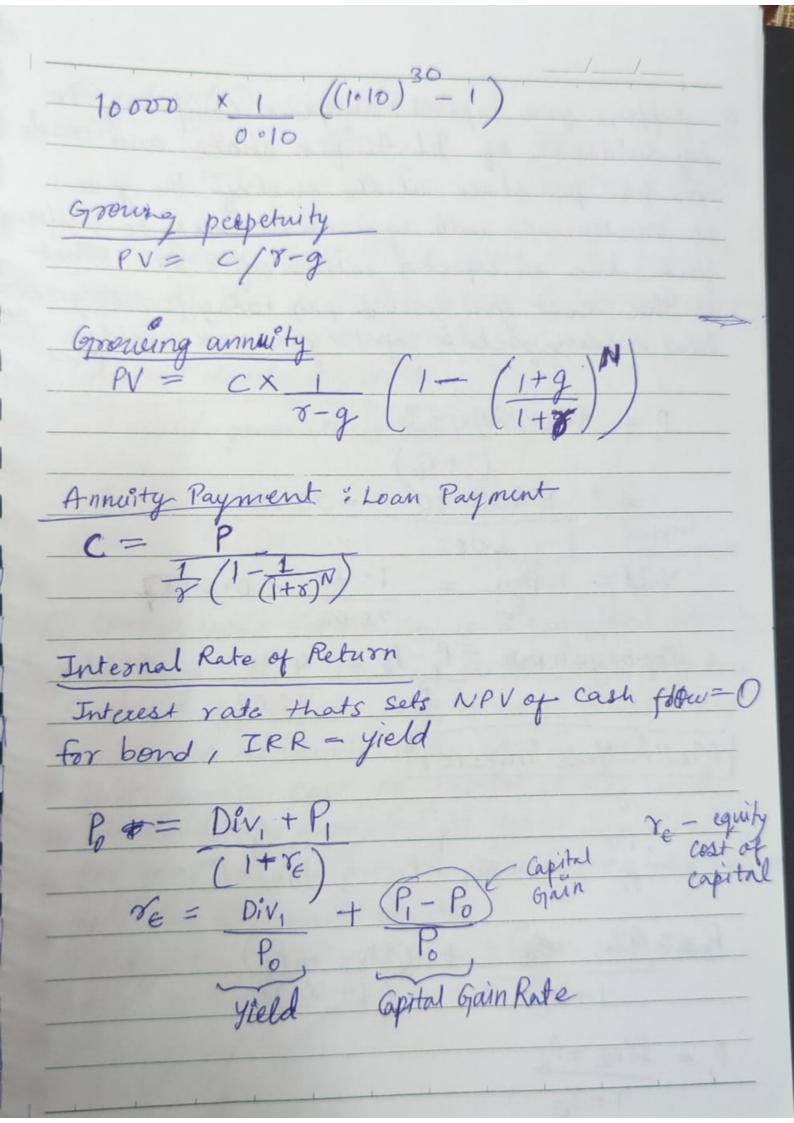
New Invest = Farning × RR (Retention rate)

Jim earning = Earning r Ret. R × Return on NI

earning Earning

Earning

To g = RR × Return on NI F F Example Ceane goods expects to have eps 6\$ in coming year. Reather investing these, from plans to pay out a Suppose Gane could cut its dividend payout Assuming its equity capital is unchanged, what offect would this new policy have on stock price E N. Dividend = EP\$ × Div P/O = 6\$ de= Divyield +g = 6+0 = 10° 0



New Dividend = 6 x 3 = 405 RR = 1- Div Plorate = 1-0.75 20.25 NI = 12% 9 = 0.25 × 12 = 3 1/1 $P_0 = D_N = 4.5 \times 100 = 450 = 64.$ 109.-8% 7% 7Case I reton NI 28%. $9 = 0.25 + 8 = 2^{\circ}/.$ $P_{0} = 4.5 = 450 = 56$ $8^{\circ}/.$

coupon Rate face & Bondholder 10 10 10, 100 interest in come Band Prices B= PV() -strue value -> Intolnsic value (IV) IV & BMARKETPrice(MP) = BMP Face Value (fV) Required rate of return (1) Time period -> maturity (N) Annuty $\frac{(CF_1 + CF_2 + CF_3) + 100}{(1+0)^1 + (1+0)^2}$ -8 8(1+8)n + FV

Yield to maturity.

soft of interest which will make your return equal to market price. FV 2100 Compon z 13%. N=1 a) MP = 90 (BMP = 100 (B) 110 Yield = CF x 100 Bond MP @ 42 13 x 100 (6) 13 x 100 (6) 13 x 100 (10) . 14.4%. 13%. 11.8% MTM = CF+ [CFV-MP)/N] x 100 Coupon rate 29%. FV= 1000 N= 6 yre MP = 900 90+ [100/6] × 100 1950 × 11,27. Buys Rig Rehuntese than 4TM