**MIDTERM EXAM REVIEW**

SECTION I – PORTFOLIO MANAGEMENT – 50%

Historical Analysis / Scenario Analysis

1. TVM – Questions on TVM – **INPUT**: Example: I have $10,000 to invest at 5% for 10 years, what is the future value?



1. Calculate the Average Return, Standard Deviation for each asset class and then calculate the combining 2 asset classes return and Standard Deviation after you get info on the weights between stock and bonds.





1. Starting with $100,000 (INPUT of three asset classes that you are investing

**INPUT:** Weights, the historical returns, historical standard deviations, and correlation

**OUTPUT:** average return, sharp ratio for risky asset (Premium/Standard Deviation) – Combine return/SD

* + Ret=Ws.Rs+Wb.Rb
  + SD=Sqrt [Wb^2.SDb^2)+(Ws^2.SDs^2)+2(Ws.Wb.SDs.SDb.Corr)]SR = (Rp–Rf)/SDp



SECTION II – STOCKS & BONDs– 50%

Stock Trading Returns / Valuation

1. Buy a stock, sell a stock, receive a dividend – calculate the return HPR% (margin, selling short or outright)
   1. Example: Buy $100, sell $120, receive div $4 – calculate HPR%= HPR%=(CF/I) (120-100+4)/100 = 24/100 = 24%
   2. Example: The same numbers with 50% margin loan @10% interest): (120-50-5+4-50)/50 = 19/50 = 38%
   3. Short Selling: Borrow shares and sell at $100. Buy back all shares at $80 – calculate HPR%= 100-80/100 = 20%
2. Stock Valuation: INPUT/OUTPUT: Enterprise Value

EV = (Shars Outs x Stock Price) + Debt – Cash,

EV=EBITDA x Multiple

Intrinsic Value (Target Price + Dividend)/(1-CAPM) and

Div. Disc Model = DIV / (CAPM-Growth)

CAPM = Rf + b (Rm – Rf)

Bond trading

1. Calculate Bond Price / Invoice Price
   1. MV of the Bond = Price x 10, Invoice Price = MV + Accrued Interest



1. YTM, YTC, YTW, Current Yield – (input Issue Date, Trading Day, Price of the bond, redemption, frequency, coupon rate) =Yield(SD,MD,CR,Pr,Red,f)



1. Price, Duration– Spreadsheet that you need to build)

