**MIDTERM EXAM REVIEW:**

**Section I – Basic and Advance Option Strategies**

1. **Uncovered Options (Buying/Selling Calls, Puts, Straddles)- 10 points**



1. **Spreads (Buying/Selling) – 10 points**





**Section II – Advised Strategies (30 points)**

1. **Protective Puts** 
   1. **Strategy: To protect your stock**
   2. **Action: Buy the Stock / Buy the Put**

**Example:**

**You buy 100 shares of Facebook at $250 and you want to minimize a potential loss if the stock drops below $240. You are the broker what would you recommend your client does?**

**Recommendation is to buy the $240 put pay premium $10 per share**

1. **Calculate the overall profit/loss and HPR% if the client decides to sell the stock at $270.**

**Buy the stock at $250x100 = $25,000**

**Buy the x=$240 put at $10x100 = $1,000**

**Total Investment = $26,000**

**Sell the stock at $270x100 = $27,000**

**No action on the Put Option = $0**

**Total Proceeds =$27,000**

**Total Profit =$1,000**

**HPR% Profit/Initial Invest = 1000/26000 = 3.85%**

1. **Calculate the overall profit/loss and HPR% if the client decides to see the stock at $200 – he must sell.**

**Buy the stock at $250x100 = $25,000**

**Buy the x=$240 put at $10x100 = $1,000**

**Total Investment = $26,000**

**Sell the stock at $200x100 = $20,000**

**Exercises the Put Option $40x100 = $ 4,000**

**Total Proceeds =$24,000**

**Total Profit =($2,000)**

**HPR% Profit/Initial Invest = (2,000)/26000 = -7.7%**

1. **Covered Calls**
   1. **Strategy: Selling the stock that you own and getting additional income**
   2. **Action: Buy/own and Sell a Call**
2. **Collars**
   1. **Strategy: To protective your stock but do not want to pay premium (minimum or zero)**
   2. **Action: Buy/Own the stock, Buy a Put and Sell a Call**

**Section III – Valuation Section: BOPM (50 points)**

1. **Single Period Probability / Leverage for Call Option**



**Leverage Method**

**Step1: Su-Sd = $120-90 = $30**

**Step 2: Cu-Cd = $10 – 0 = $10**

**Step 3: h = Cu-Cd / Su – Sd = $10/30 = 1/3**

**Step 4: PV(Sd) = Sd / ((1+i)^t) = PV(90) = 90 / ((1+.05)^1 = 90/1.05 = 85.71**

**Step 5: S - PV(Sd) = $100 – 85.71 = $14.29**

**Step6: h (S-PV(Sd)) = 1/3 (14.29) = 14.29/3 = $4.76**

1. **Two- Period Probability Method Call/Put**



1. **Two-Period Probability Method with Dividends (Yield/$) Call and Put**



**BLACK-SCHOLES**

**Call Option / Put Option**

**Call-Put Parity**

