

Baruch CAPS

Name A1

SECTION I - BASIC AND ADVANCE OPTION STRATEGIES (20 POINTS)

Question 1 (10 points)

Calculate the Payoff and Profit/Loss given the information below (1 point each - No partial points)

Action	Option	Exercise Price	Premium	Stock Price	Payoff	Profit /Loss	BE Stock	
Buy	Call	140.00	9.00	165.00	25.00	16.00	149.00	
Buy	Call	62.00	5.00	59.00	0.00	-5.00	67.00	
Buy	Put	46.00	5.00	38.00	8.00	3.00	41.00	
Buy	Put	66.00	9.00	66.00	0.00	-9.00	57.00	
Sell	Put	132.00	11.00	126.00	-6.00	5.00	121.00	
Sell	Put	127.00	9.00	128.00	0.00	9.00	118.00	
Sell	Call	156.00	6.00	152.00	0.00	6.00	162.00	
Sell	Call	143.00	8.00	145.00	-2.00	6.00	151.00	
Sell	Straddle	120.00	21.00	135.00	-15.00	6.00	99.00	141.00
Buy	Straddle	95.00	13.00	125.00	30.00	17.00	82.00	108.00

Action	Option	Exercise Price	Premium	Stock Price	Payoff	Profit /Loss	BE Stock	
Buy	Call	140.00	9.00	165.00	25.00	16.00	149.00	
Buy	Call	62.00	5.00	59.00	0.00	-5.00	67.00	
Buy	Put	46.00	5.00	38.00	8.00	3.00	41.00	
Buy	Put	66.00	9.00	66.00	0.00	-9.00	57.00	
Sell	Put	132.00	11.00	126.00	-6.00	5.00	121.00	
Sell	Put	127.00	9.00	128.00	0.00	9.00	118.00	
Sell	Call	156.00	6.00	152.00	0.00	6.00	162.00	
Sell	Call	143.00	8.00	145.00	-2.00	6.00	151.00	
Sell	Straddle	120.00	21.00	135.00	-15.00	6.00	141.00	99.00
Buy	Straddle	95.00	13.00	125.00	30.00	17.00	108.00	82.00

Question 2 (10 points)

Calculate the Payoff and Profit/Loss given the information below (2 points each):

Action	Option	Exercise Prices	Premium 1	Stock Price	Total Payoff	Total Profit
Buy	Bull Call Spread	100/110	8/10	120	10.00	12.00
Buy	Bull Put Spread	95/110	8/11	90	-15.00	-12.00
Buy	Bear Call Spread	90/120	8/5	85	0.00	3.00
Buy	Butterfly Spread	100/120	12/10/2007	125	0.00	1.00
Sell	Butterfly Spread	40/60	6/5/2003	60	0.00	-1.00

Exercise Price 1	Exercise Price 2	Exercise Price 3	Premium 1	Premium 2	Premium 3	Total premium	Stock Price	Payoff 1	Payoff 2	Payoff 3	Total Payoff	Total Profit
100.00	110.00		-8.00	10.00		2.00	120.00	20.00	-10.00		10.00	12.00
95.00	110.00		-8.00	11.00		3.00	90.00	5.00	-20.00		-15.00	-12.00
90.00	120.00		8.00	-5.00		3.00	85.00	0.00	0.00		0.00	3.00
100.00	110.00	120.00	-12.00	20.00	-7.00	1.00	125.00	25.00	-30.00	5.00	0.00	1.00
40.00	50.00	60.00	6.00	-10.00	3.00	-1.00	60.00	-20.00	20.00	0.00	0.00	-1.00

SECTION II - ADVISING ON OPTION STRATEGIES (40 POINTS)

ABC Inc. Exercise Price	CALLS			PUTS		
	Nov-17	Dec-17	Jan-18	Nov-17	Dec-17	Jan-18
125	12.64	12.80	13.33	5.28	6.01	6.81
130	8.09	9.00	10.63	7.03	8.03	9.21
135	5.17	6.33	8.47	9.36	10.73	12.45
140	3.26	4.22	5.76	13.04	14.30	16.17

Current Price: \$135

Question 3 (10 points)

On October 16, 2017 John bought 120 shares of ABC Inc. at \$135 expecting to go up soon. Assuming he is right, he wants to protect his investment so that by Jan 2018 his investment won't go below \$15,600. He is toying with the idea of requesting either a Stop Loss order to protect his downside at that level. Using the Options Market to protect this floor (\$15,600), what will you recommend John do to protect his investment for the next 3 months (Jan 2018). He does not mind paying for premium if he is fully protecting his investment.

What Strategy to you recommend?

PROTECTIVE PUT (OWN THE STOCK AND BUY \$130 JAN18 PUT)

PROTECTIVE PUT

If the stock goes up to \$165, please calculate John's profit and holding period rate of return (HPR) since his purchase including the cost of the option contract he entered.

Show Calculations:

	Number of Shares	Price	Total	HPR
Buy Stock	120	135	(16,200.00)	
15,600/120=\$130 Buy \$130 Put	Jan-18	120	9.21	(1,104.84)
Sell Stock	120	165	18,600.00	Incl Option Inv
Total Profit			1,295.16	7.99% 7.48%

	# shares	@		
Buy Stock:	120	135	(16,200.00)	
Buy Put	130	120	9.21	(1,104.84)
Sell Stock	120	165	19,800.00	
Profit			2,495.16	
HPR			15.40%	

Question 4 (15 points)

Following Question 3, John liked your recommendation but he wants to find out if he can minimize his premiums for the 3 months (by Jan 2018). In that case, what other specific recommendations you have (using the above option table for ABC)

What Strategy to you recommend?

COLLAR (BUY 130 JAN18 PUT , SELL 135 JAN18 CALL)

Assuming the stock drops to \$165 what will John's Profit and HPR be – assuming he sells the stock at this level?

Show Calculations:

	Number of Shares	Price	Total	HPR
Buy Stock	120	-135	(16,200.00)	
15,600/120=\$130 Buy \$130 Put Jan-18	120	-9.21	(1,104.84)	
Sell \$135 Call Jan-18	120	8.47	1,016.40	
Sell Stock	120	165	19,800.00	
Payoff on Call Option	120	-30	(3,600.00)	
Total Profit		(0.74)	(88.44)	-0.55%

	Number of Shares	Price	Total	HPR
Buy Stock	120	-135	(16,200.00)	
15,600/120=\$130 Buy \$130 P Jan-18	120	-9.21	(1,104.84)	
Sell \$130 C Jan-18	120	10.63	1,275.12	
Sell Stock	120	120	14,400.00	
Exercise Put Option	120	10	1,200.00	
Total Profit		(3.58)	(429.72)	-2.65%

-2.48%

Assuming the stock goes up to \$155 what will John's Profit and HPR be – assuming he sells the stock at this level?

Show Calculations:

	Number of Shares	Price	Total	HPR
Buy Stock	120	-135.00	(16,200.00)	
15,600/120=\$130 Buy \$130 Put Jan-18	120	-9.21	(1,104.84)	
Sell \$135 Call Jan-18	120	8.47	1,016.40	
Sell Stock	120	155.00	18,600.00	
Payoff Call Option	120	0.00	-	
Exercise Put Option	120	0.00	-	
Total Profit		19.26	2,311.56	14.27%

OR

	Number of Shares	Price	Total	HPR
Buy Stock	120	-135.00	(16,200.00)	
15,600/120=\$130 Buy \$130 P Jan-18	120	-9.21	(1,104.84)	
Sell \$130 C Jan-18	120	10.63	1,275.12	
Sell Stock	120	155.00	18,600.00	
Payoff Call Option	120	-25.00	(3,000.00)	
Exercise Put Option	120	0.00	-	
Total Profit		(3.58)	(429.72)	-2.65%

Profit

	Number of Shares	Price	Total	HPR
Buy Stock	120	-135	(16,200.00)	
Buy \$130 Put Jan-18	120	-9.21	(1,104.84)	
Sell \$140 Call Jan-18	120	5.76	691.68	
Sell Stock	120	120	14,400.00	
Exercise Put Option	120	10	1,200.00	
Total Profit		(8.44)	(1,013.16)	-6.25%

-5.85%

	Number of Shares	Price	Total	HPR
Buy Stock	120	-135.00	(16,200.00)	
Buy \$130 Put Jan-18	120	-9.21	(1,104.84)	
Sell \$140 Call Jan-18	120	5.76	691.68	
Sell Stock	120	155.00	18,600.00	
Payoff Call Option	120	-15.00	(1,800.00)	
Exercise Put Option	120	0.00	-	
Total Profit		1.56	186.84	1.15%

Question 5 (15 points)

You believe that the stock will have a 30% increase or decrease from current levels by December 2017 based on important information regarding the company's main drug launch. To take advantage of the situation what option strategy you recommend taking?

BUY STRADLE (BUY \$135 DEC17 CALL , BUY \$135 DEC17 PUT)

Please provide the Payoff, Profit if the stock price goes up 40% from current price

Show calculations

Action	Option	Exercise Price	Premium	Stock Price	Payoff	Profit /Loss
Buy	Call	135.00	6.33	189.00	54.00	47.68
Buy	Put	135.00	10.73	189.00	0.00	-10.73
Total			17.05		54.00	36.95

HPR

#DIV/0!

Action	Option	Exercise Price	Premium	Stock Price	Payoff	Profit /Loss	BE Stock
Buy	Call	140.00	9.00	165.00	25.00	16.00	149.00
Buy	Put	46.00	5.00	38.00	8.00	3.00	41.00
Buy	Put	66.00	9.00	66.00	0.00	-9.00	57.00

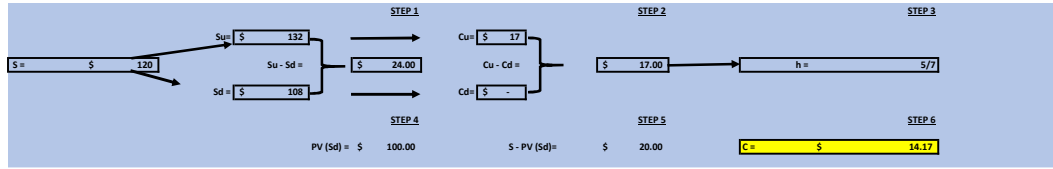
SECTION III - OPTION VALUATION METHOD (40 POINTS)

Question 6 (10 points)

Method 1 - Show calculations

Question #1

S = \$ 120.00
 u = 1.10x
 d = 0.90x
 X = \$ 115.00
 i = 8.00%
 t = 1



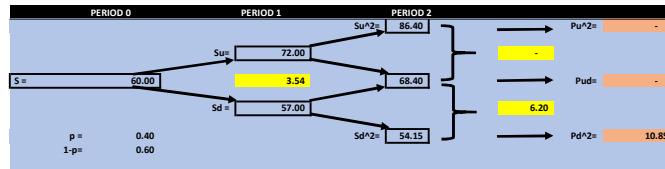
Method 2 - Show calculations:

p = 0.90
 1-p = 0.10
 C = \$ 14.17

Question 7 (10 points)

Show calculations

S = 60
 u = 1.20x
 d = 0.95x
 X = 65
 i = 5.00%
 Freq = 1
 Stages = 2



Question 8 (10 points)

S = 60
 u = 1.20x
 d = 0.95x
 X = 65
 i = 5.00%
 Div = 7.00%
 Freq = 1
 Stages = 2

