

Unit 7 - Week 5: Fundamentals of Derivatives

Course outline

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Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-09-04, 23:59 IST.

1) Consider a one-year forward contract on an underlying asset whose current price is 120. If the annual risk-free rate (continuously compounded) is 6%, then the forward price equals:

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Range) 127.1,127.8

1 point

2) Consider a six-month forward contract with the spot price of the underlying asset being 100. Further, the six-month expected return for the asset is 5%. If the six-month risk-free rate (continuously compounded) is 3% and the forward price is 102, then the "expected" payoff for the long forward position equals:

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 3

(Type: Range) 1.93,1.98

1 point

3) The value of a forward contract at the initial time $t = 0$ equals:

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 0

1 point

4) Consider a one-year forward contract on an asset with $S(0) = 90$ and the annual risk-free rate(continuously compounded) is $r = 6\%$, with the forward price $F(0,1)$. Now, if it is assumed that the asset pays a dividend of 10 at time $t = \frac{1}{2}$ (six months), then the forward price becomes $F_{div}(0,1)$. Then the value of $|F(0,1) - F_{div}(0,1)|$ equals:

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Range) 10.25,10.35

1 point

5) State whether the following statement is TRUE or FALSE: For a futures contract with maturity T , if the futures price $f(n-1,T)$ and $f(n,T)$ are 130 and 135, respectively, then an amount of 5 is transferred (at time n) from the margin account of the party with long forward position to the margin account of the party of the short forward position.

TRUE

FALSE

No, the answer is incorrect.

Score: 0

Accepted Answers:

FALSE

1 point

6) Consider an European call option with the maturity of one-year and strike price of $X = 90$. Suppose that the stock price $S(1)$ at maturity may take the values 88, 92 and 94 with the respective probabilities $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{4}$, then the "expected payoff" for the buyer of the call option at maturity equals:

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 1.5

1 point

7) Suppose that there is an European call and an European put option, both with identical expiration of six months and identical strike price of $X = 95$. If the current stock price is 92 and the annual riskfree rate is 5% and if the price of the call option is 2.25, then the price of the put option equals:

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Range) 2.85,2.95

1 point

8) Consider an American put option on an underlying asset with current price $S(0) = 95$ and the strike price being $X = 92$. The price P^A of this American option is 2.25. If C^A denotes the price of an American call option on the same underlying, same maturity and same strike price as the American put option, then which of the following statement(s) is(are) TRUE ?

(A) C^A can be greater than 5.25.

(B) C^A can be equal to 5.25.

(C) C^A can be less than 5.25.

No, the answer is incorrect.

Score: 0

Accepted Answers:

(A) C^A can be greater than 5.25.

(B) C^A can be equal to 5.25.

1 point

9) State whether the following statement is TRUE or FALSE: The price $C^E(X)$, of an European call option with strike price X , is an increasing function of X .

(A) TRUE

(B) FALSE

No, the answer is incorrect.

Score: 0

Accepted Answers:

(B) FALSE

10) The intrinsic value of a put option with strike price $X = 105$, with the current asset price $S(0) = 102$ equals:

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 3

1 point